

NACOmatic

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INSTRUMENT APPROACH PROCEDURE CHARTS



IFR ALTERNATE AIRPORT MINIMUMS

Standard alternate minimums for non precision approaches are 800-2 (NDB, VOR, LOC, TACAN, LDA, VORTAC, VOR/DME, ASR or WAAS LNAV); for precision approaches 600-2 (ILS or PAR). Airports within this geographical area that require alternate minimums other than standard or alternate minimums with restrictions are listed below. NA - means alternate minimums are not authorized due to unmonitored facility or absence of weather reporting service. Civil pilots see FAR 91. IFR Alternate Airport Minimums: Ceiling and Visibility Minimums not applicable to USA/USN/USAF. Pilots must review the IFR Alternate Airport Minimums Notes for alternate airfield suitability.

NAME	ALTERNATE MINIMUMS	NAME	ALTERNATE MINIMUMS
ABERDEEN, SD		BISMARCK, ND	
ABERDEEN RGNL	RNAV (GPS) Rwy 13	BISMARCK MUNI	ILS Rwy 13 ^{1,2}
	RNAV (GPS) Rwy 31		ILS Rwy 31 ^{1,2}
	RNAV (GPS) Rwy 35		RADAR-1 ³
	VOR Rwy 31		¹ ILS, Category D, 800-2½; Category E, 900-3.
	VOR/DME Rwy 13		LOC, NA.
NA when local weather not available.			² NA when control tower not in operation.
			³ NA when control tower closed.
ALBERT LEA, MN		BRAINERD, MN	
ALBERT LEA MUNI	RNAV (GPS) Rwy 16	BRAINERD LAKES RGNL ...	ILS or LOC Rwy 23
NA when local weather not available.			RNAV (GPS) Rwy 12
			RNAV (GPS) Rwy 23
ALEXANDRIA, MN			RNAV (GPS) Rwy 30
CHANDLER FIELD	RNAV (GPS) Rwy 31		RNAV (GPS) Rwy 34
NA when local weather not available.		NA when local weather not available.	
AUSTIN, MN		BROOKINGS, SD	
AUSTIN MUNI	RNAV (GPS) Rwy 17	BROOKINGS RGNL	RNAV (GPS) Rwy 12
	RNAV (GPS) Rwy 35		RNAV (GPS) Rwy 30
	VOR/DME-A	NA when local weather not available.	
NA when local weather not available.			
BAUDETTE, MN		CANBY, MN	
BAUDETTE INTL	RNAV (GPS) Rwy 30 ¹	MYERS FIELD	RNAV (GPS) Rwy 12
	VOR/DME Rwy 12 ²		RNAV (GPS) Rwy 30
	VOR Rwy 30 ²	NA when local weather not available.	
¹ NA when local weather not available.		CLOQUET, MN	
² Category C, 800-2¼; Category D, 800-2½.		CLOQUET CARLTON	
BEMIDJI, MN		COUNTY	RNAV (GPS) Rwy 35
BEMIDJI RGNL	RNAV (GPS) Rwy 13	NA when local weather not available.	
	RNAV (GPS) Rwy 31		
NA when local weather not available.		COOK, MN	
BENSON, MN		COOK MUNI	RNAV (GPS) Rwy 31
BENSON MUNI	RNAV (GPS) Rwy 14	NA when local weather not available.	
	RNAV (GPS) Rwy 32	CROOKSTON, MN	
NA when local weather not available.		CROOKSTON MUNI-	
		KIRKWOOD FIELD	RNAV (GPS) Rwy 13 ¹
			RNAV (GPS) Rwy 31 ¹
			VOR Rwy 31 ²
		¹ NA when local weather not available.	
		² Category A,B, 900-2; Category C, 900-2¼.	

NAME ALTERNATE MINIMUMS

DETROIT LAKES, MN

DETROIT LAKES-

WETHING FIELD RNAV (GPS) Rwy 13
RNAV (GPS) Rwy 31

NA when local weather not available.

Category D, 800-2¼.

DEVILS LAKE, ND

DEVILS LAKE RGNL RNAV (GPS) Rwy 3
RNAV (GPS) Rwy 13
RNAV (GPS) Rwy 31
VOR Rwy 3¹
VOR Rwy 21²

NA when local weather not available.

¹Categories A,B, 900-2; Category C, 900-2½;

Category D, 900-2¾.

²Category C, 800-2¼, Category D, 800-2½.

DICKINSON, ND

DICKINSON-THEODORE

ROOSEVELT RGNL RNAV (GPS) Rwy 14
RNAV (GPS) Rwy 32
VOR-A

NA when local weather not available.

DODGE CENTER, MN

DODGE CENTER RNAV (GPS) Rwy 16
RNAV (GPS) Rwy 34
VOR-A

NA when local weather not available.

DULUTH, MN

DULUTH INTL COPTER ILS Rwy 9
COPTER ILS Rwy 27
ILS Rwy 9

LOC, NA.

EVELETH, MN

EVELETH-VIRGINIA

MUNI VOR/DME or GPS-A
Category C, 800-2¼; Category D, 800-2½.

FAIRMONT, MN

FAIRMONT MUNI RNAV (GPS) Rwy 13
RNAV (GPS) Rwy 31
VOR Rwy 13
VOR Rwy 31

NA when local weather not available.

NAME ALTERNATE MINIMUMS

FARGO, ND

HECTOR INTL ILS or LOC Rwy 18¹
ILS or LOC Rwy 36¹
RNAV (GPS) Rwy 18²
RNAV (GPS) Rwy 36²
VOR/DME or TACAN Rwy 18²
VOR or TACAN Rwy 36³

¹ILS, Category E, 700-2¼. LOC, Category E, 800-2¼.

²Category E, 800-2¼.

³Category D, 800-2¼, Category E, 800-2½.

FERGUS FALLS, MN

FERGUS FALLS MUNI-EINAR

MICKELSON FIELD ILS or LOC Rwy 31¹
NDB Rwy 31²
RNAV (GPS) Rwy 31²
RNAV (GPS) Rwy 35

NA when local weather not available.

¹ILS, Category D, 700-2¼. LOC, Category D, 800-2¼.

²Category D, 800-2¼.

GLENCOE, MN

GLENCOE MUNI RNAV (GPS) Rwy 31
NA when local weather not available.

GRAND FORKS, ND

GRAND FORKS INTL ... ILS or LOC Rwy 35L¹²
LOC BC Rwy 17R¹
RNAV (GPS) Rwy 9L³
RNAV (GPS) Rwy 17R³
RNAV (GPS) Rwy 27R³
RNAV (GPS) Rwy 35L³
VOR Rwy 17R³
VOR Rwy 35L³

¹NA when control tower closed.

²ILS, Category E, 700-2½. LOC, Category E, 800-2½.

³NA when local weather not available.

GRAND MARAIS, MN

GRAND MARAIS/

COOK COUNTY RNAV (GPS) Rwy 27
NA when local weather not available.

GRAND RAPIDS, MN

GRAND RAPIDS/ITASCA CO-

GORDON NEWSTROM RNAV (GPS) Rwy 16
RNAV (GPS) Rwy 34
VOR Rwy 34

NA when local weather not available.



14 JAN 2010 to 11 FEB 2010

NAME **ALTERNATE MINIMUMS**
MITCHELL, SD
MITCHELL MUNI RNAV (GPS) Rwy 12
RNAV (GPS) Rwy 30
VOR Rwy 12
VOR Rwy 30¹

NA when local weather not available.

¹Categories A,B, 1000-2; Categories C,D, 1000-3.

MOBRIDGE, SD
MOBRIDGE MUNI RNAV (GPS) Rwy 12¹
RNAV (GPS) Rwy 30²

NA when local weather not available

¹Category D, 900-2¾.

²Category C, 800-2¾; Category D, 900-2¾.

MORRIS, MN
MORRIS MUNI-CHARLIE
SCHMIDT FLD RNAV (GPS) Rwy 14
RNAV (GPS) Rwy 32

NA when local weather not available.

PINE RIDGE, SD
PINE RIDGE RNAV (GPS) Rwy 30
NA when local weather not available.
Categories A,B, 900-2.

PIPESTONE, MN
PIPESTONE MUNI NDB Rwy 36
RNAV (GPS) Rwy 18
RNAV (GPS) Rwy 36

NA when local weather not available.

PRESTON, MN
FILLMORE COUNTY RNAV (GPS) Rwy 29
NA when local weather not available.

RAPID CITY, SD
RAPID CITY RGNL ILS or LOC Rwy 32¹
RNAV (GPS) Rwy 14²
RNAV (GPS) Rwy 32
VOR or TACAN Rwy 14²
VOR or TACAN Rwy 32²

NA when local weather not available.

¹ILS, Category D, 700-2; Category E, 700-2¾.

LOC, Category E, 800-2¾.

²Category E, 800-2¾.

REDWOOD FALLS, MN
REDWOOD FALLS
MUNI RNAV (GPS) Rwy 30
VOR-A

Category D, 800-2¾.

NA when local weather not available.

NAME **ALTERNATE MINIMUMS**
ROCHESTER, MN
ROCHESTER INTL ILS or LOC Rwy 13
ILS or LOC Rwy 31
COPTER ILS or LOC Rwy 31
NA when control tower closed.

ROSEAU, MN
ROSEAU MUNI/
RUDY BILLBERG FIELD ... RNAV (GPS) Rwy 16
RNAV (GPS) Rwy 34
NA when local weather not available.

ST. CLOUD, MN
ST. CLOUD RGNL .. ILS or LOC/DME Rwy 13¹²³
RNAV (GPS) Rwy 5¹
RNAV (GPS) Rwy 13¹
RNAV (GPS) Rwy 23¹
RNAV (GPS) Rwy 31¹
VOR/DME Rwy 13¹²
VOR Rwy 31¹²

¹NA when local weather not available.

²NA when control tower closed.

³ILS, Categories, A, B, C, D, 700-2.

ST. PAUL, MN
ST. PAUL DOWNTOWN HOLMAN
FIELD COPTER ILS or LOC Rwy 32¹
ILS or LOC Rwy 14¹²
ILS or LOC Rwy 32¹²
RNAV (GPS) Rwy 14²
RNAV (GPS) Rwy 32³

NA when control tower closed.

²Categories A,B, 900-2; Category C, 900-2½;

Category D, 900-2¾.

³Categories A,B,C, 900-2½; Category D, 900-2¾.

SIOUX FALLS, SD
JOE FOSS FIELD ILS Rwy 3¹²
ILS Rwy 21¹
RADAR-1³
VOR or TACAN Rwy 15⁴
VOR/DME or TACAN Rwy 33³

¹NA when control tower closed.

²LOC, NA.

³Category E, 800-2¾.

⁴Category E, 900-3.

SOUTH ST. PAUL, MN
SOUTH ST. PAUL MUNI-RICHARD E
FLEMING FIELD RNAV (GPS) Rwy 34
Category D, 800-2¾.
NA when local weather not available.

RADAR INSTRUMENT APPROACH MINIMUMS

BISMARCK, ND

Amdt. 3A, DEC 13, 2002 (FAA)

ELEV **1661**

BISMARCK MUNI

RADAR - 126.3 298.9 

				DA/ HATh/	HAT/ HATH/			DA/ HATh/	HAT/ HATH/		
	RWY	GS/TCH/RPI	CAT	MDA-VIS	HAA	CEIL-VIS	CAT	MDA-VIS	HAA	CEIL-VIS	
ASR	13		AB	2100-1	445	(500-1)	C	2100-1¼	445	(500-1¼)	
			D	2100-1½	445	(500-1½)					
	31		AB	2100/24	455	(500-½)	C	2100/40	455	(500-¾)	
			D	2100/50	455	(500-1)					
	21		AB	2120-1	459	(500-1)	C	2120-1¼	459	(500-1¼)	
			D	2120-1½	459	(500-1½)					
	3		AB	2120-1	459	(500-1)	C	2120-1¼	459	(500-1¼)	
			D	2120-1½	459	(500-1½)					
CIRCLING			A	2180-1	519	(600-1)	B	2220-1	539	(600-1)	
			C	2220-1½	559	(600-1½)	D	2240-2	579	(600-2)	

Inoperative table does not apply to MALS Rwy 13.

DULUTH, MN

Amdt. 20, OCT 7, 1999 (FAA)

ELEV **1428**

DULUTH INTL

RADAR - 125.45 255.9

				DA/ HATh/	HAT/ HATH/			DA/ HATh/	HAT/ HATH/		
	RWY	GS/TCH/RPI	CAT	MDA-VIS	HAA	CEIL-VIS	CAT	MDA-VIS	HAA	CEIL-VIS	
ASR	3		ABC	1820-1	400	(400-1)	D	1820-1¼	400	(400-1¼)	
			E	1820-1½	400	(400-1½)					
	27		AB	1860/24	439	(500-½)	C	1860/40	439	(500-¾)	
			DE	1860/50	439	(500-1)					
	21		AB	1860-1	440	(500-1)	C	1860-1¼	440	(500-1¼)	
			DE	1860-1½	440	(500-1½)					
	9		AB	1880/24	452	(500-½)	C	1880/40	452	(500-¾)	
			DE	1880/50	452	(500-1)					
CIRCLING			AB	1920-1	492	(500-1)	C	1920-1½	492	(500-1½)	
			DE	1980-2	552	(600-2)					

Category E circling NA southeast of Rwy 3 and 27.

ELLSWORTH AFB (KRCA) (Rapid City), SD (Amdt 1, 08045 USAF)

ELEV **3276**

RADAR - (E) 119.5 259.1¹

	<u>RWY</u>	<u>GS/TCH/RPI</u>	<u>CAT</u>	<u>DH/</u> <u>MDA-VIS</u>	<u>HAT/</u> <u>HAA</u>	<u>CEIL-VIS</u>
ASR	13 ²		AB	3820/40	544	(600-¾)
			C	3820/50	544	(600-1)
			D	3820/60	544	(600-1¼)
			E	3820-1½	544	(600-1½)
			AB	3820/40	628	(600-¾)
	31 ²		C	3820/60	628	(600-1¼)
			D	3820-1½	628	(600-1½)
			E	3820-1¾	628	(600-1¾)
			A	3860-1¼	584	(600-1¼)
			B	3880-1¼	604	(700-1¼)
CIR	All Rwy ³		C	3880-1¾	604	(700-1¾)
			D	3880-2	604	(700-2)
			E	4040-2¾	764	(800-2¾)

¹Opr 1300-0730Z++ Mon-Thu, 1300-0500Z++ Fri. 1400-0500Z++ Sat, Sun and hol. ²When ALS inop, increase CAT AB RVR to 60 and vis to 1¼, increase CAT CDE vis ½ mile. ³CAT E circling restricted to 28th BW aircraft only; 28th BW aircraft will remain within class D airspace.

MANDAN, ND

Amdt. 4, NOV 09, 1995 (FAA)

ELEV **1942**

MANDAN MUNI

RADAR - 126.3 298.9  NA

	<u>RWY</u>	<u>GS/TCH/RPI</u>	<u>CAT</u>	<u>DA/</u> <u>MDA-VIS</u>	<u>HAT/</u> <u>HAA</u>	<u>CEIL-VIS</u>	<u>CAT</u>	<u>DA/</u> <u>MDA-VIS</u>	<u>HAT/</u> <u>HAA</u>	<u>CEIL-VIS</u>
ASR	31		AB	2360-1	418	(500-1)	CD	2360-1¼	418	(500-1¼)
	13		AB	2460-1	520	(600-1)	C	2460-1½	520	(600-1½)
			D	2460-1¾	520	(600-1¾)				
			A	2460-1	518	(600-1)	B	2500-1	558	(600-1)
CIRCLING			C	2500-1½	558	(600-1½)	D	2500-2	558	(600-2)

Use Bismarck altimeter setting.

When Bismarck control tower closed, ASR NA.

RADAR INSTRUMENT APPROACH MINIMUMS

ROCHESTER, MN

Amdt. 8, JAN 15, 2009 (FAA)

ELEV 1317

ROCHESTER INTL

RADAR - 119.8 251.125 

	RWY	GS/TCH/RPI	CAT	DA/ MDA-VIS	HAT/ HATH/ HAA	CEIL-VIS	CAT	DA/ MDA-VIS	HAT/ HATH/ HAA	CEIL-VIS
ASR	2		ABC	1680-1	363	(400-1)	D	1680-1¼	363	(400-1¼)
	13		ABC	1640/24	360	(400-½)	D	1640/50	360	(400-1)
	20		ABC	1660-1	356	(400-1)	D	1660-1¼	356	(400-1¼)
	31		ABC	1660/24	356	(400-½)	D	1660/50	356	(400-1)
CIRCLING			A	1720-1	403	(500-1)	B	1780-1	463	(500-1)
			C	1780-1½	463	(500-1½)	D	1880-2	563	(600-2)

When control tower closed, procedure NA. For inoperative MALSR, increase S-13 and S-31 Cat D visibility to RVR 6000. Visibility reduction by helicopters NA Rwy 2-20.

SIOUX FALLS, SD

Amdt. 10A, OCT 3, 2003 (FAA)

ELEV 1429

JOE FOSS FIELD

RADAR - 125.8 353.6  

	RWY	GS/TCH/RPI	CAT	DA/ MDA-VIS	HAT/ HATH/ HAA	CEIL-VIS	CAT	DA/ MDA-VIS	HAT/ HATH/ HAA	CEIL-VIS
ASR	3		AB	1940/24	517	(600-½)	C	1940/50	517	(600-1)
			DE	1940/60	517	(600-1¼)				
	33		AB	1920-1	497	(500-1)	C	1920-1¼	497	(500-1¼)
			D	1920-1½	497	(500-1½)	E	1920-1¾	497	(500-1¾)
	21		AB	1960/24	531	(600-½)	C	1960/50	531	(600-1)
			D	1960/60	531	(600-1¼)	E	1960-1½	531	(600-1½)
	15		AB	1960-1	534	(600-1)	C	1960-1½	534	(600-1½)
			D	1960-1¾	534	(600-1¾)	E	1960-2	534	(600-2)
CIRCLING			AB	1960-1	531	(600-1)	C	1960-1½	531	(600-1½)
			D	2040-2	611	(700-2)	E	2300-3	871	(900-3)

When control tower closed, procedure not authorized.

Category E S-3 visibility increased 1¼ mile for inoperative MALSR.

Category E S-21 visibility increased to 2 miles for inoperative MALSR.

INSTRUMENT APPROACH PROCEDURE CHARTS
IFR TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

Civil Airports and Selected Military Airports

ALL USERS: Airports that have Departure Procedures (DPs) designed specifically to assist pilots in avoiding obstacles during the climb to the minimum enroute altitude, and/or airports that have civil IFR take-off minimums other than standard, are listed below. Take-off Minimums and Departure Procedures apply to all runways unless otherwise specified. Altitudes, unless otherwise indicated, are minimum altitudes in MSL.

DPs specifically designed for obstacle avoidance are referred to as Obstacle Departure Procedures (ODPs) and are described below in text, or published separately as a graphic procedure. If the (Obstacle) DP is published as a graphic procedure, its name will be listed below, and it can be found in either this volume (civil), or a separate Departure Procedure volume (military), as appropriate. Users will recognize graphic obstacle DPs by the term "(OBSTACLE)" included in the procedure title; e.g., TETON TWO (OBSTACLE). If not assigned a SID or radar vector by ATC, an ODP may be flown without ATC clearance to ensure obstacle clearance.

Graphic DPs designed by ATC to standardize traffic flows, ensure aircraft separation and enhance capacity are referred to as "Standard Instrument Departures (SIDs)". SIDs also provide obstacle clearance and are published under the appropriate airport section. ATC clearance must be received prior to flying a SID.

CIVIL USERS NOTE: Title 14 Code of Federal Regulations Part 91 prescribes standard take-off rules and establishes take-off minimums for certain operators as follows: (1) Aircraft having two engines or less - one statute mile. (2) Aircraft having more than two engines - one-half statute mile. These standard minima apply in the absence of any different minima listed below.

MILITARY USERS NOTE: Civil (nonstandard) take-off minima are published below. For military take-off minima, refer to appropriate service directives.

NAME TAKE-OFF MINIMUMS

ABERDEEN, SD

ABERDEEN RGNL (ABR)

ORIG 09239 (FAA)

NOTE: **Rwy 17**, trees 1138' from DER, 432' right of centerline, 41' AGL/1336' MSL. **Rwy 31**, multiple trees beginning 1391' from DER, 326' left of centerline, up to 65' AGL/1360' MSL.

AITKIN, MN

AITKIN MUNI-STEVE KURTZ FIELD (AIT)

AMDT 2 96172 (FAA)

TAKE-OFF MINIMUMS: **Rwys 8, 26**, 300-1. **Rwy 16**, 300-1 or std. with a min climb of 400' per NM to 1500.

DEPARTURE PROCEDURE: **Rwys 16, 26**, climb runway heading to 1700 before turning.

ALBERT LEA, MN

ALBERT LEA MUNI (AEL)

ORIG 85241 (FAA)

DEPARTURE PROCEDURE: **Rwys 16, 22**, climb runway heading to 1800 before turning on course.

ALEXANDRIA, MN

CHANDLER FIELD (AXN)

DEPARTURE PROCEDURE: **Rwys 4, 13, 22**, when weather is below 200-1, climb runway heading to 1800 before turning.

NAME TAKE-OFF MINIMUMS

APPLETON, MN

APPLETON MUNI (AQP)

ORIG 94146 (FAA)

DEPARTURE PROCEDURE: **Rwy 4**, climb to 2000 before turning right. **Rwy 31**, climb to 2000 before turning left.

Rwy 13, climb to 2400 before turning right. **Rwy 22**, climb to 2400 before turning left.

AUSTIN, MN

AUSTIN MUNI (AUM)

ORIG 08045 (FAA)

NOTE: **Rwy 17**, Multiple trees beginning 809' from

departure end of runway, 663' right of centerline, up to 61' AGL/1285' MSL. **Rwy 35**, Tree 1380' from departure end of runway, 484' right of centerline, 100' AGL/1314' MSL.

BAUDETTE, MN

BAUDETTE INTL (BDE)

ORIG 01193 (FAA)

DEPARTURE PROCEDURE: **Rwy 12**, climb runway heading to 1700 before turning northbound.

BELLE FOURCHE, SD

BELLE FOURCHE MUNI (EFC)
AMDT 2 09015 (FAA)

TAKE-OFF MINIMUMS: **Rwys 18,36**, NA. **Rwy 14**, std. w/ min. climb of 240' per NM to 9000 or 1400-3 for climb in visual conditions. **Rwy 32**, std. w/ min. climb of 413' per NM to 3900.
DEPARTURE PROCEDURE: **Rwy 14**, for climb in visual conditions: cross Belle Fourche Muni airport at or above 4400 MSL before proceeding on course. **Rwy 32**, climb heading 321° to 3900 before proceeding southbound.
NOTE: **Rwy 14**, trees 651' from departure end of runway, 547' left of centerline, up to 20' AGL/3299' MSL. **Rwy 32**, trees 857' from departure end of runway, 150' left of centerline, up to 20' AGL/3199' MSL. Trees 3880' from departure end of runway, 966' right of centerline, up to 20' AGL/3289' MSL.

BEMIDJI, MN

BEMIDJI RGNL (BJI)
AMDT 3 08213 (FAA)

NOTE: **Rwy 7**, vegetation beginning 859' from departure end of runway, 544' right of centerline, up to 62' AGL/ 1442' MSL. Vegetation beginning 1404' from departure end of runway, 683' left of centerline, up to 44' AGL/1424' MSL. **Rwy 13**, vehicle on road, 541' from departure end of runway, 525' right of centerline, 15' AGL/1398' MSL. **Rwy 25**, poles beginning 1337' from departure end of runway, 205' right of ceterline up to 61' AGL/1445' MSL. Trees beginning 1414' from departure end of runway, 254' left of centerline, up to 57' AGL/1441' MSL. Tree 1406' from departure end of runway, 233' right of centerline, 53' AGL/1437' MSL.

BENSON, MN

BENSON MUNI (BBB)
AMDT 1 09127 (FAA)

NOTE: **Rwy 14**, numerous trees beginning 838' from DER, 246' right of centerline, up to 33' AGL/1087' MSL. Numerous trees beginning 1232' from DER, 64' left of centerline, up to 69' AGL/1108' MSL. Sign 206' from DER, 198' left of centerline, 19' AGL/1044' MSL. Tower 4884' from DER, 274' right of centerline, 126' AGL/1161' MSL. **Rwy 32**, Tree 2380' from DER, 646' left of centerline, 68' AGL/1107' MSL. Multiple fences beginning 13' from DER, 361' left of centerline, up to 8' AGL/1043' MSL.

BIGFORK, MN

BIGFORK MUNI (FOZ)
ORIG 97198 (FAA)

TAKE-OFF MINIMUMS: **Rwy 15**, 400-1 or std. with a min. climb of 250' per NM to 1800.

BISMARCK, ND

BISMARCK MUNI (BIS)
AMDT 7 01137 (FAA)

DEPARTURE PROCEDURE: **Rwys 3, 31**, climb runway heading to 2500 before proceeding on course.
Rwys 13, 21, climb runway heading to 3800 before proceeding south.

BOTTINEAU, ND

BOTTINEAU MUNI (D09)
ORIG 98113 (FAA)

TAKE-OFF MINIMUMS: **Rwy 13**, 800-1 or std. with a min. climb of 280' per NM to 2500. **Rwy 31**, 900-2 or std. with a min. climb of 360' per NM to 2900. **Rwys 3, 21**, NA.

BRAINERD, MN

BRAINERD LAKES RGNL (BRD)
AMDT 5 07074 (FAA)

NOTE: **Rwy 12**, multiple trees beginning 165' from departure end of runway, 417' left of centerline, up to 78' AGL/1279' MSL. Multiple trees and vehicle on road beginning 304' from departure end of runway, 206' right of centerline, up to 66' AGL/1277' MSL. **Rwy 16**, multiple trees beginning 1830' from departure end of runway, 749' left of centerline, up to 74' AGL/1314' MSL. **Rwy 23**, multiple trees beginning 1495' from departure end of runway, 179' left of centerline, up to 48' AGL/1285' MSL. Tree 2437' from departure end of runway, 716' right of centerline, 50' AGL/1279' MSL. **Rwy 30**, multiple trees beginning 243' from departure end of runway, 131' left of centerline, up to 61' AGL/1287' MSL. Multiple trees 48' from departure end of runway, 328' right of centerline, up to 59' AGL/1329' MSL.

BRITTON, SD

BRITTON MUNI (BTN)
AMDT 2 96060 (FAA)

TAKE-OFF MINIMUMS: **Rwy 13**, 300-1 or std. with a min. climb of 450' per NM to 1600. **Rwy 19**, 300-1.
DEPARTURE PROCEDURE: **Rwy 19**, climb runway heading to 2000 before turning.

BROOKINGS, SD

BROOKINGS RGNL (BKX)
ORIG 09015 (FAA)

NOTE: **Rwy 12**, pole and trees beginning 1041' from departure end of runway, 207' left of centerline, up to 65' AGL/1705' MSL. Building 1277' from departure end of runway, 825' right of centerline, 38' AGL/1618' MSL. **Rwy 17**, vehicle on road 799' from departure end of runway, on centerline, up to 15' AGL/1687' MSL. Trees beginning 906' from departure end of runway, 464' left of centerline, up to 100' AGL/1749' MSL. **Rwy 30**, railroad beginning 547' from departure end of runway, 502' right of centerline, 23' AGL/1626' MSL. Tree 132' from departure end of runway, 433' left of centerline, 20' AGL/ 1615' MSL. **Rwy 35**, trees 2892' from departure end of runway, 944' right of centerline, up to 100' AGL/1709' MSL.

CANBY, MN

MYERS FIELD (CNB)
ORIG 07186 (FAA)

NOTE: **Rwy 12**, truck on road 183' from departure end of runway, 220' right of centerline, 15' AGL/1204' MSL.

CASSELTON, ND

CASSELTON ROBERT MILLER RGNL (5N8)
ORIG 07354 (FAA)

TAKE-OFF MINIMUMS: **Rwy 31**, 400-2½ or std. w/a min. climb of 212' per NM to 1400 or alternatively, with standard takeoff minimums and a normal 200'/NM climb gradient, takeoff must occur no later than 1700' prior to departure end of runway.

NOTE: **Rwy 13**, railroad 30' from departure end of runway, 505' right of centerline, 23' AGL/945' MSL. Vehicle on road 449' from departure end of runway, 300' left of centerline, 15' AGL/949' MSL. **Rwy 31**, trees 2251' from departure end of runway, 456' left of centerline, up to 100' AGL/1052' MSL.

CAVALIER, ND

CAVALIER MUNI (2C8)
ORIG 03191 (FAA)

TAKE-OFF MINIMUMS: **Rwy 16**, 300-1 or std. with a min. climb of 430' per NM to 1200.
NOTE: **Rwy 16**, grain elevator 3731' from departure end of runway, 284' left of centerline, 168' AGL/1060' MSL.

CLOQUET, MN

CLOQUET CARLTON COUNTY (COQ)
AMDT 1 80248 (FAA)

TAKE-OFF MINIMUMS: **Rwy 7**, 300-1 or std. with a min. climb of 400' per NM to 1400.

CROOKSTON, MN

CROOKSTON MUNI-KIRKWOOD FIELD (CKN)
AMDT 2 07298 (FAA)

TAKE-OFF MINIMUMS: **Rwys 6, 17, 24, 35**, NA-turf runways.
NOTE: **Rwy 13**, tree 1998' from departure end of runway, 587' left of centerline, 94' AGL/970' MSL. Pole 1127' from departure end of runway, 662' left of centerline, 46' AGL/926' MSL.

DETROIT LAKES, MN

DETROIT LAKES-WETHING FIELD (DTL)
ORIG 05132 (FAA)

TAKE-OFF MINIMUMS: **Rwys 17, 35**, NA.
NOTE: **Rwy 31**, highway 243' from departure end of runway, 267' right of centerline, 15' AGL/1404' MSL. Railroad 534' from departure end of runway, 298' right of centerline, 23' AGL/1411' MSL.

DEVILS LAKE, ND

DEVILS LAKE RGNL (DVL)
AMDT 1A 09351 (FAA)

TAKE-OFF MINIMUMS: **Rwy 31**, 300-1 or std. with a min. climb of 350' per NM to 1600.
NOTE: **Rwy 3**, tree 1528' from DER, 319' left of centerline, 100' AGL/1490' MSL. Tree 1520' from DER, 136' right of centerline, 100' AGL/1489' MSL. **Rwy 13**, bush 266' from DER, 523' left of centerline, 17' AGL/1451' MSL. Road, light pole and antenna on building beginning 95' from DER, 414' right of centerline, up to 17' AGL/1484' MSL. **Rwy 21**, roads beginning 335' from DER, 2' right of centerline, 15' AGL/1447' MSL, multiple poles, trees and towers beginning 552' from DER 355' left of centerline, up to 123' AGL/1548' MSL. **Rwy 31**, road 470' from DER, 424' right of centerline, 15' AGL/1472' MSL. Multiple poles and trees beginning 1180' from DER, 354' left of centerline, up to 49' AGL/1545' MSL.

DICKINSON, ND

DICKINSON-THEODORE ROOSEVELT RGNL (DIK)
AMDT 1 05244 (FAA)

DEPARTURE PROCEDURE: **Rwy 25**, climb via heading 250° to 3100 before turning left.
NOTE: **Rwy 7**, road 887' from departure end of runway, on rwy centerline, 15' AGL/2631' MSL.

DODGE CENTER, MN

DODGE CENTER (TOB)
ORIG 09015 (FAA)

TAKE-OFF MINIMUMS: **Rwy 22**, NA-Environmental.
NOTE: **Rwy 16**, trees 3945' from departure end of runway, 1542' left of centerline, 100' AGL/1409' MSL.

DULUTH, MN

DULUTH INTL (DLH)
ORIG 06327 (FAA)

NOTE: **Rwy 3**, multiple trees beginning 21' from departure end of runway, 226' right of centerline, up to 68' AGL/1477' MSL. Multiple trees beginning 246' from departure end of runway, 26' left of centerline, up to 64' AGL/1473' MSL. **Rwy 9**, electrical equipment 207' from departure end of runway, 408' left of centerline, 6' AGL/1425' MSL. **Rwy 21**, tower 3762' from departure end of runway, 410' left of centerline, 92' AGL/1522' MSL. **Rwy 27**, tree 2426' from departure end of runway, 1127' right of centerline, 53' AGL/1522' MSL. Bush and multiple trees beginning 347' from departure end of runway, 484' left of centerline, up to 44' AGL/1533' MSL.

SKY HARBOR (DYT)
ORIG 83174 (FAA)

TAKE-OFF MINIMUMS: **Rwy 14**, 300-1. **Rwy 32**, 1500-2 or std. with a min. climb of 360' per NM to 2300.
DEPARTURE PROCEDURE: **Rwy 14**, northwest departures (260° CW 030°) climb to 2300 via heading 260° or 030° before proceeding on course.

EAGLE BUTTE, SD

CHEYENNE EAGLE BUTTE (84D)
ORIG 96228 (FAA)
TAKE-OFF MINIMUMS: **Rwys 13,31**, 300-1.

ELY, MN

ELY MUNI (ELO)

AMDT 2 97086 (FAA)

TAKE-OFF MINIMUMS: **Rwy 12**, 300-1 or std. with a min. climb of 200' per NM to 1600.

DEPARTURE PROCEDURE: **Rwy 30**, northbound departures climb runway heading to 2000 before turning.

EVELETH, MN

EVELETH-VIRGINIA MUNI (EVM)

AMDT 2 94118 (FAA)

TAKE-OFF MINIMUMS: **Rwy 32**, 800-2 or std. with a min. climb to 330' per NM to 2300.

DEPARTURE PROCEDURE: **Rwy 27**, northwest departures (270°-050°) climb runway heading to 2200 before turning.

FAIRMONT, MN

FAIRMONT MUNI (FRM)

AMDT 3 09127 (FAA)

NOTE: **Rwy 2**, trees beginning 2466' from DER, 1105' right of centerline, up to 100' AGL/1269' MSL. **Rwy 13**, tree 2340' from DER, 1039' left of centerline, 100' AGL/1269' MSL. **Rwy 20**, trees beginning 1640' from DER, 914' right of centerline, up to 100' AGL/1289' MSL. Trees beginning 913' from DER, 449' left of centerline, up to 100' AGL/1299' MSL. **Rwy 31**, trees beginning 954' from DER, 161' left of centerline, up to 100' AGL/1299' MSL. Trees and road beginning 791' from DER, 339' right of centerline, up to 57' AGL/1226' MSL.

FARGO, ND

HECTOR INTL (FAR)

AMDT 4 04330 (FAA)

TAKE-OFF MINIMUMS: **Rwys 13, 31**, NA.

NOTE: **Rwy 9**, multiple light poles 1124' from departure end of runway, 305' left of centerline, 20' AGL/927' MSL.

FERGUS FALLS, MN

FERGUS FALLS MUNI-EINAR MICKELSON FIELD (FFM)

ORIG 09239 (FAA)

NOTE: **Rwy 13**, trees beginning 2612' from DER, 128' right of centerline, up to 100' AGL/1269' MSL. Trees beginning 2514' from DER, 42' left of centerline, up to 100' AGL/1259' MSL. **Rwy 17**, trees beginning 1100' from DER 663' right of centerline, up to 100' AGL/1269' MSL. Road 222' from DER, 469' right of centerline, 15' AGL/1173' MSL. **Rwy 35**, trees beginning 2156' from DER, 176' right of centerline, up to 100' AGL/1289' MSL.

FOSSTON, MN

FOSSTON MUNI (FSE)

AMDT 1 87351 (FAA)

TAKE-OFF MINIMUMS: **Rwys 14, 32**, IFR takeoff not authorized.

DEPARTURE PROCEDURE: **Rwy 16**, climb runway heading to 2000 before turning.

GETTYSBURG, SD

GETTYSBURG MUNI (0D8)

AMDT 1 07018 (FAA)

NOTE: **Rwy 4**, multiple trees beginning 1011' from departure end of runway, 420' left of centerline, up to 60' AGL/2119' MSL. **Rwy 13**, multiple trees beginning 1897' from departure end of runway, 975' left of centerline, 60' AGL/2119' MSL. **Rwy 22**, multiple trees beginning 679' from departure end of runway, 117' left of centerline, up to 60' AGL/2109' MSL.

GLENCOE, MN

GLENCOE MUNI (GYL)

ORIG 09071 (FAA)

NOTE: **Rwy 13**, trees beginning 349' from DER, 257' right of centerline, up to 100' AGL/1099' MSL. Trees beginning 1211' from DER, 314' left of centerline, up to 100' AGL/1109' MSL. Terrain beginning 53' from DER, 166' left of centerline, up to 998' MSL. Terrain beginning 286' from DER, 435' right of centerline, up to 1001' MSL. **Rwy 31**, trees beginning 501' from DER, 530' right of centerline, up to 100' AGL/1099' MSL. Tree 2577' from DER, 129' left of centerline, 100' AGL/1109' MSL.

GLENWOOD, MN

GLENWOOD MUNI (GHW)

AMDT 2 98337 (FAA)

TAKE-OFF MINIMUMS: **Rwy 5**, 1200-2 or std. with a min. climb of 220' per NM to 2900.

GRAFTON, ND

HUTSON FIELD (GAF)

ORIG 97086 (FAA)

TAKE-OFF MINIMUMS: **Rwy 35**, 400-2 or std. with a min. climb of 420' per NM to 1300.

GRANDFORKS, ND

GRAND FORKS INTL (GFK)

AMDT 2 09071 (FAA)

NOTE: **Rwy 9L**, tree 127' from DER, 451' left of centerline, 12' AGL/853' MSL. **Rwy 27R**, bush 38' from DER, 474' right of centerline, 5' AGL/844' MSL. **Rwy 35L**, obstruction light on DME 645' from DER, 198' left of centerline, 21' AGL/860' MSL. **Rwy 35R**, tree 1259' from DER, 521' right of centerline, 41' AGL/880' MSL. Tree 1655' from DER, 271' left of centerline, 45' AGL/884' MSL.

GRANT MARAIS, MN

GRANT MARAIS/COOK COUNTY (CKC)

ORIG 09015 (FAA)

NOTE: **Rwy 9**, trees beginning 58' from departure end of runway, 168' right of centerline up to 54' AGL/1833' MSL. Bushes 112' from departure end of runway, 142' left of centerline, 11' AGL/1805' MSL. Tree 464' from departure end of runway, 75' left of centerline, 14' AGL/1813' MSL. **Rwy 27**, trees beginning 85' from departure end of runway, 187' left of centerline, up to 59' AGL/1858' MSL. Trees beginning 282' from departure end of runway, 115' right of centerline, up to 42' AGL/1861' MSL.

GRAND RAPIDS, MN

GRAND RAPIDS/ITASCA COUNTY-GORDON
NEWSTROM FIELD (GPZ)

AMDT 4 09127 (FAA)

TAKE-OFF MINIMUMS: **Rwys 5,10,23,28**, NA-
Environmental.

NOTE: **Rwy 16**, tree 1655' from DER, 899' left of
centerline, 51' AGL/1410' MSL. Tree 3236' from DER,
1130' right of centerline, 82' AGL/1441' MSL. **Rwy 34**,
tree 3416' from DER, 1253' right of centerline, 100'
AGL/1399' MSL.

GREGORY, SD

GREGORY MUNI, FLYNN FIELD (9D1)

ORIG 97142 (FAA)

TAKE-OFF MINIMUMS: **Rwy 31**, 400-2 or std. with a
min. climb of 210' per NM to 2600.

GWINNER, ND

GWINNER-ROGER MELROE FIELD (GWR)

ORIG 09183 (FAA)

TAKE-OFF MINIMUMS: **Rwys 6, 24**, NA-Environment.
Rwy 34, Std. w/ min. climb of 216' per NM to 2000, or
900-2½ for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwy 34**, for climb in
visual conditions, cross Gwinner-Roger Melroe Field at
or above 2000, before proceeding on course.

NOTE: **Rwy 16**, terrain beginning 15' from DER, 73'
right of centerline, 1257' MSL. **Rwy 34**, road and vehicle
436' from DER, on centerline, 15' AGL/1286' MSL.

HAWLEY, MN

HAWLEY MUNI (04Y)

ORIG 07074 (FAA)

NOTE: **Rwy 34**, road 15' from departure end of runway,
421' left of centerline, 15' AGL/1224' MSL.

HETTINGER, ND

HETTINGER MUNI (HEI)

AMDT 1 98225 (FAA)

TAKE-OFF MINIMUMS: **Rwy 12**, 300-1 or std. with a
min. climb rate of 220' per NM to 3000. **Rwys 17, 35** NA.

HIBBING, MN

CHISHOLM-HIBBING (HIB)

AMDT 6 04218 (FAA)

DEPARTURE PROCEDURE: **Rwy 22**, climb via heading
227° to 2200 before turning right. **Rwy 31**, climb via
heading 310° to 2200 before turning left.

NOTE: **Rwy 4**, antenna on pole, 361' from departure end
of runway, 409' right of centerline, 1377' MSL. **Rwy 13**,
obstacle light on pole, 1184' from departure end of
runway, 636' left of centerline. Numerous trees
beginning 1291' from departure end of runway, 745' left
of centerline up to 1419' MSL. Trees 1497' from
departure end of runway, 563' right of centerline, 1388'
MSL. **Rwy 22**, multiple trees beginning 368' from
departure end of runway, 170' right of centerline, up to
1416' MSL. Multiple trees beginning 413' from
departure end of runway, 117' left of centerline, up to
1400' MSL. **Rwy 31**, light standard, 865' from departure
end of runway, 595' right of centerline, 1381' MSL.

HILLSBORO, ND

HILLSBORO MUNI (3H4)

ORIG 97198 (FAA)

DEPARTURE PROCEDURE: **Rwys 16, 34**, climb runway
heading to 2000 prior to turning westbound.

HINCKLEY, MN

FIELD OF DREAMS (04W)

ORIG 08045 (FAA)

NOTE: **Rwy 6**, Tree 82' from departure end of runway,
480' right of centerline, 100' AGL/1114' MSL. Tree 143'
from departure end of runway, 161' left of centerline, 100'
AGL/1114' MSL. **Rwy 24**, Tree 48' from departure end of
runway, 165' left of centerline, 100' AGL/1124' MSL.

HOT SPRINGS, SD

HOT SPRINGS MUNI (HSR)

ORIG 97142 (FAA)

TAKE-OFF MINIMUMS: **Rwy 1**, 300-1 or std. with a min.
climb of 360' per NM to 5000. **Rwy 19**, 300-2 or std. with
a min. climb of 250' per NM to 5000.

DEPARTURE PROCEDURE: **Rwys 1, 19**, climb runway
heading to 5000 before proceeding westbound.

HURON, SD

HURON RGNL (HON)

AMDT 5 09239 (FAA)

NOTE: **Rwy 12**, trees and pole beginning 918' from DER,
525' left of centerline, up to 62' AGL/1341' MSL. Trees
beginning 291' from DER, 234' right of centerline, up to
100' AGL/1389' MSL. **Rwy 17**, trees beginning 236'
from DER, 307' left of centerline, up to 67' AGL/1346'
MSL. Trees beginning 264' from DER, 262' right of
centerline, 73' AGL/1352' MSL. **Rwy 30**, trees
beginning 3428' from DER, 1378' left of centerline, up to
100' AGL/1394' MSL. **Rwy 35**, trees beginning 60' from
DER, 104' left of centerline, up to 49' AGL/1328' MSL.
Trees beginning 251' from DER, 97' right of centerline,
52' AGL/1331' MSL.

INTERNATIONAL FALLS, MN

FALLS INTL (INL)

AMDT 3 08101 (FAA)

NOTE: **Rwy 4**, Tree 392' from departure end of runway
311' left of centerline, 51' AGL/1231' MSL. **Rwy 13**,
multiple trees beginning 1999' from departure end of
runway, 773' left of centerline, up to 63' AGL/1233' MSL.
Pole 1091, from departure end of runway, 703' right of
centerline, 37' AGL/1207' MSL. Road 1005' from
departure end of runway, 766' left of centerline, 15' AGL/
1195' MSL. **Rwy 22**, Multiple trees beginning 433' from
departure end of runway 273' left of centerline, up to 33'
AGL/1213' MSL. Trees 1144' from departure end of
runway 136' right of centerline, 28' AGL/1208' MSL.
Rwy 31, Trees 968' from departure end of runway, 752'
left of centerline, 56' AGL/1236' MSL.

09351

JACKSON, MN

JACKSON MUNI (MJQ)

ORIG 08045 (FAA)

TAKE-OFF MINIMUMS: **Rwys 4,22**, NA-TURF.

DEPARTURE PROCEDURE: **Rwy 13**, Climb heading 134° to 1900 before turning right.

NOTES: **Rwy 13**, Trees beginning 1474' from departure end of runway, 556' left of centerline, up to 80' AGL/1539' MSL. Vehicle on road 258' from departure end of runway, 559' from centerline, 15' AGL/1459' MSL. **Rwy 31**, Vehicle on road 465' from departure end of runway, 618' left of centerline, 15' AGL/1446' MSL. Trees beginning 1616' from departure end of runway, 580' right of centerline, up to 80' AGL/1519' MSL. Trees beginning 1110' from departure end of runway, 429' left of centerline, up to 80' AGL/1509' MSL.

JAMESTOWN, ND

JAMESTOWN RGNL (JMS)

AMDT 1 07242 (FAA)

NOTE: **Rwy 22**, antenna and tank beginning 2960' from departure end of runway, 1007' left of centerline, up to 150' AGL/1631' MSL. **Rwy 31**, multiple trees beginning 2129' from departure end of runway 47' right of centerline, up to 60' AGL/1560' MSL.

LITCHFIELD, MN

LITCHFIELD MUNI (LJF)

DEPARTURE PROCEDURE: **Rwys 13, 31**, climb to 1800 on runway heading before proceeding on course.

LITTLE FALLS, MN

LITTLE FALLS/MORRISON COUNTY

CHARLES A. LINDBERGH FIELD (LXL)

AMDT 3 96172 (FAA)

TAKE-OFF MINIMUMS: **Rwy 13**, 300-1 or std. with a min. climb of 250' per NM to 1500. **Rwy 36**, 600-1½ or std. with a min. climb of 345' per NM to 1700.

DEPARTURE PROCEDURE: **Rwy 31**, climb to 1700 before turning.

LONG PRAIRIE, MN

TODD FIELD (14Y)

ORIG 08157 (FAA)

NOTE: **Rwy 16**, tree 273' from departure end of runway, 310' right of centerline, 100' AGL/1436' MSL. **Rwy 34**, tree 70' from departure end of runway, 100' right of centerline, 100' AGL/1439' MSL. Tree 122' from departure end of runway, 105' left of centerline, 100' AGL/1436' MSL. Tree 18' from departure end of runway, 106' right of centerline, 100' AGL/1433' MSL.

MANKATO, MN

MANKATO RGNL (MKT)

ORIG 09267 (FAA)

NOTE: **Rwy 4**, trees beginning 447' from DER, 408' right of centerline, up to 100' AGL/1078' MSL. Trees beginning 1996' from DER, 17' left of centerline, up to 100' AGL/1084' MSL. **Rwy 15**, trees beginning 1552' from DER, 719' left of centerline, up to 100' AGL/1088' MSL. **Rwy 22**, trees beginning 2370' from DER, 989' right of centerline, up to 100' AGL/1069' MSL. **Rwy 33**, trees beginning 2085' from DER, 780' right of centerline, up to 100' AGL/1077' MSL. Rising terrain 9' from DER, 65' right of centerline, up to 1029' MSL. Terrain beginning 82' from DER, 60' left of centerline, up to 1029' MSL.

MARSHALL, MN

SOUTHWEST MINNESOTA RGNL MARSHALL/

RYAN FIELD (MML)

AMDT 2 08101 (FAA)

TAKE-OFF MINIMUMS: **Rwy 20**, Std. w/ min. climb of 270' per NM to 2000, or 1000-3 for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwy 20**, for climb in visual conditions, cross Marshall Airport at or above 2000 MSL before proceeding on course.

NOTE: **Rwy 12**, Pole 706' from departure end of runway, 671' right of centerline, 60' AGL/1212' MSL, pole 1580' from departure end of runway, 732' left of centerline, 70' AGL/1225' MSL, antenna 1496' from departure end of runway, 620' right of centerline, 64' AGL/1219' MSL, pole 1185' from departure end of runway, 540' right of centerline, 55' AGL/1210' MSL, tree 3564' from departure end of runway, 400' right of centerline, 110' AGL/1269' MSL, tree 2135' from departure end of runway, 113' left of centerline, 77' AGL/1232' MSL. **Rwy 30**, Vehicle on road 1' from departure end of runway, 435' left of centerline, 24' AGL/1200' MSL.

MILBANK, SD

MILBANK MUNI (1D1)

ORIG 08101 (FAA)

TAKE-OFF MINIMUMS: **Rwy 25**, Std. w/ a min. climb of 207' per NM to 1900, or 900-2½ for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwy 25**, For climb in visual conditions cross Milbank Muni airport at or above 1900 before proceeding on course.

NOTE: **Rwy 7**, trees beginning 1207' from departure end of runway, 387' left of centerline, up to 100' AGL/1219' MSL. Vehicle on road 829' from departure end of runway, 373' right of centerline, 15' AGL/1134' MSL. Building 322' from departure end of runway, 582' right of centerline, 25' AGL/1134' MSL. **Rwy 13**, trees beginning 1448' from departure end of runway, 394' right of centerline, up to 100' AGL/1219' MSL. Vehicle on road 218' from departure end of runway, 490' left of centerline, 15' AGL/1134' MSL. Building 78' from departure end of runway, 397' left of centerline, 25' AGL/1134' MSL. **Rwy 25**, tree 3584' from departure end of runway, 477' left of centerline, 100' AGL/1249' MSL.

Rwy 31, tree 2992' from departure end of runway, 715' left of centerline, 100' AGL/1239' MSL.

MILLER, SD

MILLER MUNI (MKA)

ORIG 08269 (FAA)

NOTE: **Rwy 15**, vehicle on road 769' from departure end of runway, 642' right of centerline, 15' AGL/1599' MSL. Snow removal equipment 206' from departure end of runway, 475' right of centerline, 21' AGL/1594' MSL. Tree 3903' from departure end of runway, 998' left of centerline, 100' AGL/1684' MSL. **Rwy 33**, vehicle on road 450' from departure end of runway, 560' left of centerline, 15' AGL/1584' MSL. Tree 762' from departure end of runway, 628' left of centerline, 100' AGL/1669' MSL.

09351

MINNEAPOLIS, MN

ANOKA COUNTY-BLAINE AIRPORT
(JANES FIELD) (ANE)

AMDT 4 07018 (FAA)

DEPARTURE PROCEDURE: **Rwy 9**, climb heading 089° to 2600 before turning right. **Rwy 18**, climb heading 179° to 2600 before turning left. **Rwy 27**, climb heading 269° to 1800 before proceeding southeast bound. **Rwy 36**, climb heading 359° to 1800 before proceeding southeast bound.

NOTE: **Rwy 9**, multiple trees 821' from departure end of runway, 619' right of centerline, up to 51' AGL/961' MSL. Tank 1.1 NM from departure end of runway, 1280' right of centerline, 170' AGL/1082' MSL. **Rwy 27**, multiple trees 559' from departure end of runway, 404' left of centerline, up to 50' AGL/946' MSL. Multiple trees 480' from departure end of runway, 394' right of centerline, up to 26' AGL/922' MSL. **Rwy 36**, multiple trees 191' from departure end of runway, 495' right of centerline, up to 78' AGL/971' MSL. Multiple trees 1458' from departure end of runway, 53' left of centerline, up to 59' AGL/958' MSL.

CRYSTAL (MIC)

AMDT 2 81050 (FAA)

TAKE-OFF MINIMUMS: **Rwys 14L, 14R, 32L, 32R**, 300-1. **Rwys 24L, 24R**, 300-1 or std. with a min. climb of 215' per NM to 1000. **Rwys 6L, 6R**, 300-1 or std. with a min. climb of 285' per NM to 1000.

DEPARTURE PROCEDURE: **Rwys 6L, 6R, 14L, 14R**, eastbound departures (050°-130°) climb runway heading to 2800 before turning.

FLYING CLOUD (FCM)

AMDT 4 08157 (FAA)

NOTE: **Rwy 10L**, multiple antenna's on hangar's beginning 270' from departure end of runway, 330' left of centerline, up to 26' AGL/932' MSL. Tree 682' from departure end of runway, 668' right of centerline, 26' AGL/932' MSL. **Rwy 10R**, multiple obstruction light on poles beginning 287' from departure end of runway, 345' right of centerline, up to 36' AGL/939' MSL. Hangar 150' from departure end of runway, 422' right of centerline, 21' AGL/920' MSL. Antenna on building, 536' from departure end of runway, 263' right of centerline, 14' AGL/913' MSL. **Rwy 18**, multiple trees beginning 338' from departure end of runway, 166' left of centerline, up to 62' AGL/961' MSL. Obstruction light on fence 176' from departure end of runway, 127' left of centerline, 10' AGL/910' MSL. Vehicle and road 198' from departure end of runway, 196' left of centerline, 15' AGL/918' MSL. Floodlight 148' from departure end of runway, 374' right of centerline, 38' AGL/938' MSL. Obstruction light on hangar 282' from departure end of runway, 317' right of centerline, 37' AGL/937' MSL. **Rwy 28R**, Hangar 259' from departure end of runway, 355' right of centerline, 18' AGL/931' MSL. **Rwy 36**, wind vane 923' from departure end of runway, 404' left of centerline, 61' AGL/960' MSL. Vent on building 943' from departure end of runway, 295' left of centerline, 44' AGL/943' MSL. Pole 714' from departure end of runway, 351' left of centerline, 33' AGL/932' MSL. Multiple trees beginning 504' from departure end of runway, 324' right of centerline, up to 67' AGL/966' MSL.

MINNEAPOLIS-ST. PAUL INTL
(WOLD CHAMBERLAIN) (MSP)

AMDT 11 07130 (FAA)

TAKEOFF MINIMUMS: **Rwy 35**, std. with a min. climb of 219' per NM to 2100.

DEPARTURE PROCEDURE: **Rwy 4**, climb heading 043° to 2100 before turning left. **Rwy 30L**, climb heading 299° to 2100 before turning right. **Rwy 30R**, climb heading 299° to 2100 before turning right. **Rwy 35**, climb via heading 348° to 2100 before turning left.

NOTE: **Rwy 4**, multiple trees beginning 800' from departure end of runway, 264' left of centerline, up to 75' AGL/921' MSL. Rod on building 2528' from departure end of runway, 1175' left of centerline, 78' AGL/922' MSL. Fence 803' from departure end of runway, 585' left of centerline, 15' AGL/860' MSL. Antenna on OL building 456' from departure end of runway, 319' left of centerline, 13' AGL/850' MSL. Light poles 1932' from departure end of runway, 718' left of centerline, 45' AGL/885' MSL. Stack 4535' from departure end of runway, 481' left of centerline, 139' AGL/949' MSL. **Rwy 12R**, multiple trees beginning 1477' from departure end of runway, 407' left of centerline, up to 86' AGL/851' MSL. Multiple trees beginning 1426' from departure end of runway, 124' right of centerline, up to 111' AGL/847' MSL. Light pole 1408' from departure end of runway, 746' right of centerline, 85' AGL/843' MSL. Radar RFLTR 983' from departure end of runway, 32' left of centerline, 15' AGL/829' MSL. Pipe on building, 826' from departure end of runway, 576' left of centerline, 10' AGL/825' MSL. Obstruction light on localizer 766' from departure end of runway, on centerline, 7' AGL/821' MSL. **Rwy 17**, antenna 1272' from departure end of runway, 562' right of centerline, 57' AGL/891' MSL. Pole 409' from departure end of runway, 530' right of centerline, 29' AGL/866' MSL. WDI on building 2619' from departure end of runway, 881' left of centerline, 97' AGL/918' MSL. Building 2619' from departure end of runway, 859' left of centerline, 84' AGL/905' MSL. Light 1176' from departure end of runway, 291' right of centerline, 11' AGL/875' MSL. Tree 2619' from departure end of runway, on centerline, 79' AGL/900' MSL. **Rwy 22**, tree 2906' from departure end of runway, 833' right of centerline, 94' AGL/934' MSL. Hopper 1717' from departure end of runway, 456' left of centerline, 48' AGL/888' MSL. **Rwy 30L**, multiple trees beginning 1113' from departure end of runway, 701' left of centerline, up to 80' AGL/919' MSL. Tree 1230' from departure end of runway, 633' right of centerline, 30' AGL/877' MSL. Ground 28' from departure end of runway, 490' right of centerline, 0' AGL/844' MSL. **Rwy 30R**, building 1056' from departure end of runway, 198' left of centerline, 13' AGL/853' MSL. Multiple trees beginning 3010' from departure end of runway, 334' left of centerline, up to 94' AGL/940' MSL. Light pole 1849' from departure end of runway, 698' right of centerline, 17' AGL/871' MSL. Fence 1327' from departure end of runway, 667' right of centerline, 8' AGL/857' MSL. Tree 3703' from departure end of runway, 350' right of centerline, 67' AGL/914' MSL. Rod on pole 3143' from departure end of runway, 47' right of centerline, 38' AGL/898' MSL. **Rwy 35**, tree 175' from departure end of runway, 398' right of centerline, 73' AGL/883' MSL. Multiple trees beginning 1989' from departure end of runway, 351' left of centerline, up to 65' AGL/902' MSL. Multiple buildings beginning 5.45 NM from departure end of runway, 1787' left of centerline, up to 811' AGL/1743' MSL.



MINOT, ND

MINOT INTL (MOT)

AMDT 3 06103 (FAA)

TAKE-OFF MINIMUMS: **Rwy 26**, 300-1½ or std. with a min. climb of 219' per NM to 2000.

DEPARTURE PROCEDURE: **Rwy 13**, climb via heading 128° to 2000 before turning right. **Rwy 26**, climb via heading 260° to 2300 before turning left.

NOTE: **Rwy 8**, tree 1801' from departure end of runway, 292' left of centerline, 56' AGL/1714' MSL. Tree 1459' from departure end of runway, 528' left of centerline, 47' AGL/1705' MSL. **Rwy 26**, tree 1750' from departure end of runway, 618' right of centerline, 71' AGL/1786' MSL. Tree 1829' from departure end of runway, 376' left of centerline, 65' AGL/1780' MSL. Light pole 1110' from departure end of runway, 610' left of centerline, 44' AGL/1759' MSL. Tank 1.1 NM from departure end of runway, 1810' right of centerline, 184' AGL/1899' MSL. Tree 1782' from departure end of runway, 273' right of centerline, 49' AGL/1764' MSL. Light pole 1294' from departure end of runway, 452' right of centerline, 29' AGL/1751' MSL. Tree 2019' from departure end of runway, 393' right of centerline, 54' AGL/1769' MSL. Building 1431' from departure end of runway, 301' right of centerline, 38' AGL/1753' MSL. Light pole 1418' from departure end of runway, 23' right of centerline, 36' AGL/1751' MSL.

MITCHELL, SD

MITCHELL MUNI (MHE)

AMDT 1 86240 (FAA)

DEPARTURE PROCEDURE: **Rwys 12, 17**, climb to 1800 before turning.

MOBRIDGE, SD

MOBRIDGE MUNI (MBG)

ORIG 88154 (FAA)

TAKE-OFF MINIMUMS: **Rwy 35**, 300-1.

DEPARTURE PROCEDURE: **Rwys 12, 17, 30, 35**, climb runway heading to 2500 before turning on course.

MONTEVIDEO, MN

MONTEVIDEO-CHIPPEWA COUNTY (MVE)

TAKE-OFF MINIMUMS: **Rwy 21**, 400-1½.

DEPARTURE PROCEDURE: **Rwy 14**, climb runway heading to 1500 before turning.

MOOSE LAKE, MN

MOOSE LAKE CARLTON COUNTY (MZH)

ORIG 94006 (FAA)

TAKE-OFF MINIMUMS: **Rwys 4, 22**, 300-1.

MORRIS, MN

MORRIS MUNI-CHARLIE SCHMIDT FLD (MOX)

ORIG 08045 (FAA)

TAKE-OFF MINIMUMS: **Rwys 4, 22**, NA-Environmental.

NOTE: **Rwy 32**, Trees 2888' from departure end of runway, 1125' left of centerline, 100' AGL/1209' MSL.

OAKES, ND

OAKES MUNI (2D5)

ORIG 97142 (FAA)

TAKE-OFF MINIMUMS: **Rwy 30**, 300-1 or std. with a min. climb of 260' per NM to 1700.

OLIVIA, MN

OLIVIA RGNL (OVL)

AMDT 1 86044 (FAA)

TAKE-OFF MINIMUMS: **Rwy 11**, 300-1.

ORR, MN

ORR RGNL (ORB)

AMDT 1 80136 (FAA)

TAKE-OFF MINIMUMS: **Rwy 13**, 500-2 or std. with a min. climb of 260' per NM to 1900.

ORTONVILLE, MN

ORTONVILLE MUNI-MARTINSON FIELD (VVV)

ORIG 81274 (FAA)

TAKE-OFF MINIMUMS: **Rwy 16**, 300-1 or std. with a min. climb of 210' per NM to 1300.

OWATONNA, MN

OWATONNA DEGNER RGNL (OWA)

AMDT 2 97030 (FAA)

DEPARTURE PROCEDURE: **Rwy 12**, climb runway heading to 1500 before turning on course.

PEMBINA, ND

PEMBINA MUNI (PMB)

ORIG 85325 (FAA)

DEPARTURE PROCEDURE: **Rwy 33**, climb runway heading 3200 before turning left.

PERHAM, MN

PERHAM MUNI (16D)

ORIG 98113 (FAA)

TAKE-OFF MINIMUMS: **Rwy 12**, 500-2 or std. with a min. climb of 210' per NM to 2000. **Rwy 30**, 400-1 or std. with a min. climb of 270' per NM to 1800.

DEPARTURE PROCEDURE: **Rwy 12**, climb runway heading to 2000 before proceeding on course.

Rwy 30, climb runway heading to 1800 before proceeding on course.

PIERRE, SD

PIERRE RGNL (PIR)

AMDT 2 85115 (FAA)

TAKE-OFF MINIMUMS: **Rwy 25**, 300-1.

PINE RIDGE, SD

PINE RIDGE (IEN)

ORIG 97226 (FAA)

TAKE-OFF MINIMUMS: **Rwy 12**, 300-1 or std. with a min. climb of 350' per NM to 3600. **Rwy 24**, 300-1 or std. with a min. climb of 220' per NM to 3500. **Rwy 30**, 300-1 or std. with a min. climb of 300' per NM to 3600.

PIPESTONE, MN

PIPESTONE MUNI (PQN)
ORIG 08045 (FAA)
TAKE-OFF MINIMUMS: **Rwys 9,27**, NA-Environmental.
NOTE: **Rwy 18**, Trees beginning 3811' from departure end of runway, 854' right of centerline, up to 100' AGL/ 1859' MSL.

PRESTON, MN

FILLMORE COUNTY (FKA)
ORIG 98113 (FAA)
TAKE-OFF MINIMUMS: **Rwys 11,29**, 300-1.

PRINCETON, MN

PRINCETON MUNI (PNM)
AMDT 1 05132 (FAA)
NOTE: **Rwy 15**, trees 982' from departure end of runway, 335' right of centerline, 50' AGL/1029' MSL. Trees 1449' from departure end of runway, 387' left of centerline, 50' AGL/1029' MSL. **Rwy 33**, barn 1159' from departure end of runway, 780' right of centerline, 50' AGL/1139' MSL, multiple trees, terrain, and road beginning 36' from departure end of runway, 84' right of centerline, up to 50' AGL/1045' MSL.

RAPID CITY, SD

RAPID CITY RGNL (RAP)
AMDT 6 07130 (FAA)
DEPARTURE PROCEDURE: **Rwy 5**, climb on heading between 255° clockwise to 210° from departure end of runway, or min. climb of 240' per NM to 8800 for all other courses. **Rwy 14**, climb on heading between 325° clockwise to 210° from departure end of runway, or min. climb of 245' per NM to 8900 for all other courses. **Rwy 23**, climb on heading between 210° counter clockwise to 055° from departure end of runway, or min. climb of 268' per NM to 8900 for all other courses. **Rwy 32**, climb on heading between 255° clockwise to 140° from departure end of runway, or min. climb of 242' per NM to 8800 for all other courses.

NOTE: **Rwy 5**, fence 133' from departure end of runway, 249' left of centerline, 10' AGL/3215' MSL. **Rwy 23**, hangar 201' from departure end of runway, 299' left of centerline, 24' AGL/3193' MSL. Fence 334' from departure end of runway, 256' right of centerline, 10' AGL/3184' MSL. **Rwy 32**, obstruction light 662' from departure end of runway, 243' left of centerline, 54' AGL/ 3213' MSL. Fence 1002' from departure end of runway, 751' right of centerline, 10' AGL/3233' MSL. Tower 1.9 NM from departure end of runway, 3503' right of centerline, 152' AGL/3520' MSL.

RAY S. MILLER AAF (KRYM)

CAMP RIPLEY, MN AMDT 2, 09155
TAKE-OFF OBSTACLES: **Rwy 13**, Terrain 1270' MSL, 73' from DER, 8' left and right of centerline. Vehicle 15' AGL/1180' MSL, 765' from DER, 638' left of centerline. **Rwy 31**, Terrain 1273' MSL, 54' from DER, 9' left and right of centerline. Trees 64' AGL/1282' MSL, 798' from DER, 325' left and right of centerline.

RED WING, MN

RED WING RGNL (RGK)
AMDT 1 01137 (FAA)
DEPARTURE PROCEDURE: **Rwy 9**, 700-4 or std. with a min. climb of 270' per NM to 1700.

REDWOOD FALLS, MN

REDWOOD FALLS MUNI (RWF)
ORIG 09071 (FAA)
TAKE-OFF MINIMUMS: **Rwys 5, 23**, NA-Environmental.
NOTE: **Rwy 12**, numerous buildings beginning 388' from DER, 376' right of centerline, up to 13' AGL/1052' MSL. Numerous fences beginning 6' from DER, 329' right of centerline, up to 13' AGL/1052' MSL. Tree 62' from DER, 444' left of centerline, 11' AGL/1040' MSL. **Rwy 30**, multiple trees beginning 865' from DER, 401' right of centerline, up to 100' AGL/1119' MSL. Vehicle on road 128' from DER, 306' right of centerline, 15' AGL/1027' MSL.

ROCHESTER, MN

ROCHESTER INTL (RST)
ORIG 09015 (FAA)
NOTE: **Rwy 2**, road 73' from departure end of runway, 385' right of centerline, 10' AGL/1292' MSL. Tree 4377' from departure end of runway, 1132' right of centerline, 100' AGL/1399' MSL. Road 268' from departure end of runway, 366' right of centerline, 10' AGL/1290' MSL. **Rwy 13**, tree 1498' from departure end of runway, 840' right of centerline, 44' AGL/1348' MSL. **Rwy 20**, pole 259' from departure end of runway, 407' right of centerline, 23' AGL/1338' MSL. Roads beginning 1' from departure end of runway, 231' right of centerline, up to 10' AGL/1327' MSL. **Rwy 31**, tree 4760' from departure end of runway, 1103' left of centerline, 100' AGL/1389' MSL.

ROSEAU, MN

ROSEAU MUNI-RUDY BILLBERG FIELD (ROX)
ORIG 07242 (FAA)
NOTE: **Rwy 16**, building 258' from departure end of runway, 505' right of centerline, 24' AGL/1078' MSL. Tree 1582' from departure end of runway, 337' left of centerline, 47' AGL/1101' MSL. **Rwy 34**, truck on road 41' from departure end of runway, 511' left of centerline, 15' AGL/1069' MSL.

RUSHFORD, MN

RUSHFORD MUNI (55Y)
AMDT 1 96228 (FAA)
TAKE-OFF MINIMUMS: **Rwy 34**, 300-1 or std. with a min. climb of 300' per NM to 1500.
DEPARTURE PROCEDURE: **Rwy 16**, climb runway heading to 1700 before turning eastbound.

ST. CLOUD, MN

ST. CLOUD RGNL (STC)

ORIG 09239 (FAA)

TAKE-OFF MINIMUMS: **Rwy 5**, 300-1¼ or std. w/ min. climb of 201' per NM to 1300 or alternatively, with standard take-off minimums and a normal 200'/NM climb gradient, take-off must occur no later than 1100' prior to DER.

NOTE: **Rwy 5**, tower 6201' from DER, 1416' left of centerline, 149' AGL/1179' MSL. Multiple trees beginning 17' from DER, 373' right of centerline, up to 59' AGL/1081' MSL. Multiple trees beginning 1752' from DER, 56' left of centerline, up to 80' AGL/1102' MSL.

Rwy 13, tree 1654' from DER, 884' right of centerline, 61' AGL/1078' MSL. Tree 1265' from DER, 794' left of centerline, 42' AGL/1059' MSL. **Rwy 23**, trees 2109' from DER, 29' right of centerline, up to 61' AGL/1082' MSL. Trees 1725' from DER, 93' left of centerline, up to 55' AGL/1076' MSL. Fence 74' from DER, 216' left of centerline, 2' AGL, 1023' MSL. **Rwy 31**, terrain beginning 29' from DER, 50' right of centerline, up to 1083' MSL. Terrain beginning 107' from DER, 7' left of centerline, up to 1060' MSL.

ST. JAMES, MN

ST. JAMES MUNI (JYG)

ORIG 94342 (FAA)

DEPARTURE PROCEDURE: **Rwy 15**, climb to 1900 before turning eastbound.

ST. PAUL MN

LAKE ELMO (21D)

ORIG 80318 (FAA)

TAKE-OFF MINIMUMS: **Rwy 22**, 300-1 or std. with a min. climb of 225' per NM to 1100.

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

AMDT 7 08157 (FAA)

TAKE-OFF MINIMUMS: **Rwy 9**, std. w/ min. climb of 346' per NM to 1500. **Rwy 13**, std. w/ min. climb of 266' per NM to 1500. **Rwy 14**, std. w/ min. climb of 216' per NM to 1500. **Rwy 27**, std. w/ min. climb of 436' per NM to 1500.

Rwy 31, NA - obstacles. **Rwy 32**, std. w/ min. climb of 340' per NM to 3000.

DEPARTURE PROCEDURE: **Rwy 9**, climb heading 088° to 1500 before proceeding on course. **Rwy 13**, climb heading 125° to 1500 before proceeding on course.

Rwy 14, climb heading 143° to 1500 before proceeding on course. **Rwy 27**, climb heading 268° to 1700 before proceeding on course. **Rwy 32**, climb heading 323° to 1300 before proceeding on course.

NOTE: **Rwy 9**, multiple trees beginning 1265' from departure end of runway, 167' right of centerline, up to 75' AGL/1055' MSL. Multiple trees beginning 1.1 NM from departure end of runway, 124' left of centerline, up to 100' AGL/1099' MSL. Obstruction light tank 1571' from departure end of runway, 771' right of centerline, 50' AGL/811' MSL. Mobile crane 1163' from departure end of runway, 123' left of centerline, 50' AGL/758' MSL.

ST. PAUL DOWNTOWN HOLMAN FIELD

(STP) (CON'T)

Rwy 13, Obstruction light stack 2695' from departure end of runway, 842' right of centerline, 50' AGL/820' MSL. Tree 1563' from departure end of runway, 25' right of centerline, 61' AGL/748' MSL. Multiple trees beginning 1004' from departure end of runway, 607' left of centerline, 50' AGL/767' MSL. Tower 1,725' from departure end of runway, 930' left of centerline, 47' AGL/753' MSL. Vent on building 3029' from departure end of runway, 629' right of centerline, 10' AGL/783' MSL. Multiple bushes beginning 194' from departure end of runway 88' left of centerline, 7' AGL/712' MSL. Stack 1,879' from departure end of runway, 25' left of centerline, 51' AGL/751' MSL. **Rwy 14**, multiple trees beginning 805' from departure end of runway, 2' right of centerline, up to 112' AGL/811' MSL. Multiple trees beginning 1205' from departure end of runway, 64' left of centerline, up to 80' AGL/770' MSL. Poles 2810' from departure end of runway 715' right of centerline, 91' AGL/778' MSL. **Rwy 27**, multiple trees beginning 803' from departure end of runway, 122' left of centerline, up to 100' AGL/994' MSL. Tree 783' from departure end of runway, 105' right of centerline, 25' AGL/725' MSL. Obstruction light antenna 996' from departure end of runway, 304' right of centerline, 67' AGL/767' MSL. Light pole 1328' from departure end of runway, 222' left of centerline, 50' AGL/747' MSL. Building 2049' from departure end of runway, 837' right of centerline, 57' AGL/761' MSL. Flagpole 2333' from departure end of runway, 199' left of centerline, 78' AGL/778' MSL. Stack 1.8 NM from departure end of runway, 635' left of centerline, 569' AGL/1279' MSL.

Rwy 32, road and vehicle 211' from departure end of runway, 482' left of centerline, 17' AGL/717' MSL. Railroad beginning 369' from departure end of runway, 329' left of centerline, up to 23' AGL/727' MSL. Pipe on DME 383' from departure end of runway, 269' right of centerline, 17' AGL/722' MSL. Tree 1152' from departure end of runway, 209' left of centerline, 44' AGL/744' MSL. Tree 1685' from departure end of runway, 277' right of centerline, 75' AGL/770' MSL. Sign 5668' from departure end of runway, 1924' left of centerline, 86' AGL/874' MSL. Trees 5614' from departure end of runway, 1796' right of centerline, 100' AGL/939' MSL. Building 5779' from departure end of runway, 1733' right of centerline, 72' AGL/910' MSL. Pole 1.0 NM from departure end of runway, 1835' right of centerline, 157' AGL/973' MSL. Building 1.1 NM from departure end of runway, 2170' left of centerline, 122' AGL/886' MSL. Multiple buildings beginning 1.1 NM from departure end of runway, 378' left of centerline, up to 142' AGL/918' MSL.

SILVER BAY, MN

SILVER BAY MUNI (BFW)

ORIG 93035 (FAA)

TAKE-OFF MINIMUMS: **Rwys 7, 25**, 300-1.

TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

SIoux FALLS, SD

JOE FOSS FIELD (FSD)

AMDT 7 07242 (FAA)

TAKE-OFF MINIMUMS: **Rwy 15**, 200-1 or std. w/ min. climb of 404' per NM to 1700. **Rwy 33**, 200-1½ or std. w/ min. climb of 343' per NM to 1700.

DEPARTURE PROCEDURE: **Rwy 3**, climb heading 030° to 2300 before turning eastbound. **Rwy 9**, climb heading 098° to 2000, then left turn direct FSD VORTAC. **Rwy 15**, climb heading 150° to 2000, then right turn direct FSD VORTAC. **Rwy 21**, climb heading 210° to 2200 before turning eastbound. **Rwy 27**, climb heading 278° to 2100 before turning eastbound. **Rwy 33**, climb heading 330° to 2200 before turning eastbound.

NOTE: **Rwy 9**, antenna 2238' from departure end of runway, 919' right of centerline, 87' AGL/1506' MSL. Pole 1256' from departure end of runway, 23' left of centerline, 43' AGL/1464' MSL. Windsock 331' from departure end of runway, 582' right of centerline, 14' AGL/1433' MSL. **Rwy 15**, antenna 3056' from departure end of runway, 983' left of centerline 117' AGL/1576' MSL. Multiple trees beginning 1211' from departure end of runway, 471' left of centerline, up to 38' AGL/1477' MSL. Tower 3102' from departure end of runway, 972' left of centerline, 61' AGL/1520' MSL. Trees and pole beginning 1746' from departure end of runway, 316' right of centerline, up to 87' AGL/1516' MSL. **Rwy 21**, multiple trees beginning 428' from departure end of runway, 522' right of centerline, up to 75' AGL/1497' MSL. **Rwy 27**, multiple trees beginning 2528' from departure end of runway, 1027' left of centerline, up to 100' AGL/1509' MSL. **Rwy 33**, 2 lighted radio towers 3639' from departure end of runway, 894' left of centerline, 88' AGL/1585' MSL, multiple trees beginning 5370' from departure end of runway, 891' left of centerline, up to 175' AGL/1603' MSL, pole 5724' from departure end of runway, 1701' left of centerline, 45' AGL/1594' MSL.

SPEARFISH, SD

BLACK HILLS-CLYDE ICE FIELD (SPF)

TAKE-OFF MINIMUMS: **Rwys 3, 8, 21, 35**, 700-2 (NA at night.). **Rwy 13**, 900-2 or std. with a min. climb of 300' per NM to 5400. **Rwy 17**, NA. **Rwys 26, 31**, 700-2 or std. with a min. climb of 370' per NM to 4700.

DEPARTURE PROCEDURE: **Rwys 3, 8**, turn left. Climb to 6500, intercept the 046° bearing outbound from SPF NDB. Thence... **Rwy 13**, climb runway heading to 4300, then climbing left turn to 6500 via heading 360° to intercept the 046° bearing outbound from SPF NDB. Thence... **Rwys 21, 35**, turn right. Climb to 6500 intercept the 046° bearing outbound from SPF NDB. Thence... **Rwy 26**, climbing right turn to 6500 via heading 330°, intercept the 297° bearing outbound from SPF NDB. Thence... **Rwy 31**, after take-off, intercept 297° bearing outbound from SPF NDB. Climb to 6500. Thence... THENCE...Continue climb to enroute MEA's before proceeding on course.

STAPLES, MN

STAPLES MUNI (SAZ)

AMDT 2 87211 (FAA)

TAKE-OFF MINIMUMS: **Rwy 14**, 400-2.

STURGIS, SD

STURGIS MUNI (49B)

ORIG 96284 (FAA)

DEPARTURE PROCEDURE: **Rwy 11**, climb runway heading to 6000, then direct RAP VORTAC.

Rwy 29, climb runway heading to 5000, then climbing right turn to 6000 direct RAP VORTAC.

THIEF RIVER FALLS, MN

THIEF RIVER FALLS RGNL (TVF)

ORIG 09071 (FAA)

NOTE: **Rwy 3**, trees beginning 3058' from DER, 678' right of centerline, up to 100' AGL/1229' MSL. **Rwy 13**, trees beginning 565' from DER, 372' left of centerline, up to 100' AGL/1214' MSL. Trees beginning 1337' from DER, 531' right of centerline, up to 100' AGL/1209' MSL. **Rwy 21**, trees beginning 214' from DER, 544' right of centerline, up to 100' AGL/1204' MSL. Trees beginning 2185' from DER, 33' left of centerline, up to 100' AGL/1209' MSL. **Rwy 31**, trees beginning 126' from DER, 410' right of centerline, up to 100' AGL/1214' MSL. Trees beginning 199' from DER, 413' left of centerline, up to 100' AGL/1209' MSL. Trees beginning 1204' from DER, 449' right of centerline, up to 100' AGL/1199' MSL. Trees beginning 1579' from DER, 495' left of centerline, up to 100' AGL/1214' MSL.

TIOGA, ND

TIOGA MUNI (D60)

ORIG 09239 (FAA)

TAKE-OFF MINIMUMS: **Rwys 3, 21**, NA- Environmental.

NOTE: **Rwy 12**, vehicle on road 1243' from DER, 78' left of centerline, 15' AGL/2304' MSL. Vehicle on road, tree and pole beginning 618' from DER, 50' right of centerline, up to 100' AGL/2419' MSL. Ground 21' from DER, 481' right of centerline, 2272' MSL. **Rwy 30**, vehicle on road 1' from DER, 144' left of centerline, 15' AGL/2256' MSL.

TOWER, MN

TOWER MUNI (12D)

ORIG 09127 (FAA)

TAKE-OFF MINIMUMS: **Rwy 8**, NA - Obstacles.

NOTE: **Rwy 26**, tree 2315' from DER, 700' right of centerline, 100' AGL/1479' MSL.

VERMILLION, SD

HAROLD DAVIDSON FIELD (VMR)

AMDT 1 09239 (FAA)

NOTE: **Rwy 12**, road 1' from DER, 200' right of centerline, up to 15' AGL/1156' MSL. Multiple trees beginning 541' from DER, 366' right of centerline, up to 62' AGL/1202' MSL. **Rwy 30**, road 79' from DER 342' left of centerline 15' AGL/1155' MSL. Road 200' from DER, 450' right of centerline, 15' AGL/1160' MSL. Fence 199' from DER, 347' left of centerline, 6' AGL/1150' MSL.

WAHPETON, ND

HARRY STERN (BWP)

ORIG 93259 (FAA)

TAKE-OFF MINIMUMS: **Rwy 3**, 300-1.

**WARREN, MN**

WARREN MUNI (D37)

ORIG 02108 (FAA)

DEPARTURE PROCEDURE: **Rwy 30**, climb
runway heading to 1400 before turning on course.**WARROAD, MN**

WARROAD INTL MEMORIAL (RRT)

ORIG 08101 (FAA)

TAKE-OFF MINIMUMS: **Rwys 4, 22**, NA-
Environmental.**WASECA, MN**

WASECA MUNI (ACQ)

ORIG 09015 (FAA)

NOTE: **Rwy 15**, tree 560' from departure end of
runway, 560' right of centerline, 100' AGL/1239'
MSL. Terrain beginning 172' from departure end of
runway, on centerline, up to 1149' MSL. **Rwy 33**,
tree 5042' from departure end of runway, 1533' right
of centerline, 100' AGL/1259' MSL.**WATERTOWN, SD**

WATERTOWN RGNL (ATY)

ORIG 07242 (FAA)

NOTE: **Rwy 12**, tree 2015' from departure end of
runway, 328' right of centerline, 100' AGL/1783'
MSL. **Rwy 30**, trees 2149' from departure end of
runway, 10' right of centerline, 51' AGL/1810' MSL.
Tree 2200' from departure end of runway, 441' left of
centerline, 70' AGL/1810' MSL. Tree 2082' from
departure end of runway, 121' right of centerline, 55'
AGL/1806' MSL.**WATFORD CITY, ND**

WATFORD CITY MUNI (S25)

ORIG 98225 (FAA)

TAKE-OFF MINIMUMS: **Rwy 30**, 400-1 or std. with
a min. climb of 340' per NM to 2600. **Rwy 12**, 300-1
or std. with a min climb of 300' per NM to 2600.**WHEATON, MN**

WHEATON MUNI (ETH)

AMDT 1 92177 (FAA)

TAKE-OFF MINIMUMS: **Rwy 16**, 300-1. **Rwys 4**,
22, NA.**WILLISTON, ND**

SLOULIN FIELD INTL (ISN)

AMDT 3 00251 (FAA)

TAKE-OFF MINIMUMS: **Rwy 29**, 300-1 or std. with a
min. climb of 270' per NM to 2300.DEPARTURE PROCEDURE: **Rwy 20**, climb runway
heading to 2300 before turning westbound.**WILLMAR, MN**

WILLMAR MUNI-JOHN L. RICE FIELD

(BDH)

ORIG 06327 (FAA)

NOTE: **Rwy 31**, tree 1338' from departure end of
runway, 740' left of centerline, 67' AGL/1193'
MSL.**WINNER, SD**

WINNER RGNL (ICR)

AMDT 3 09127 (FAA)

TAKE-OFF MINIMUMS: **Rwys 3, 21**, NA-
Environmental.**WINONA, MN**

WINONA MUNI-MAX CONRAD FIELD

(ONA)

AMDT 3 96228 (FAA)

TAKE-OFF MINIMUMS: **Rwy 12**, 300-1 or std.
with a min. climb of 320' per NM to 800. **Rwy 17**,
600-1 or std. with a min. climb of 500' per NM to
1300. **Rwy 30**, 500-1 or std. with a min. climb of
500' per NM to 1200. **Rwy 35**, 700-1 or std. with
a min. climb of 390' per NM to 1500.DEPARTURE PROCEDURE: **Rwy 12**, climb to
1900 via ONA R-110 before turning. **Rwys 17**,
30, 35, climb runway heading to 1900 before
turning.**WORTHINGTON, MN**

WORTHINGTON MUNI (OTG)

AMDT 2 88154 (FAA)

TAKE-OFF MINIMUMS: **Rwy 17**, 300-1.
DEPARTURE PROCEDURE: **Rwys 11, 17, 29**,
35, when weather is below 800-1 climb runway
heading to 2400 before turning.**YANKTON, SD**

CHAN GURNEY MUNI (YKN)

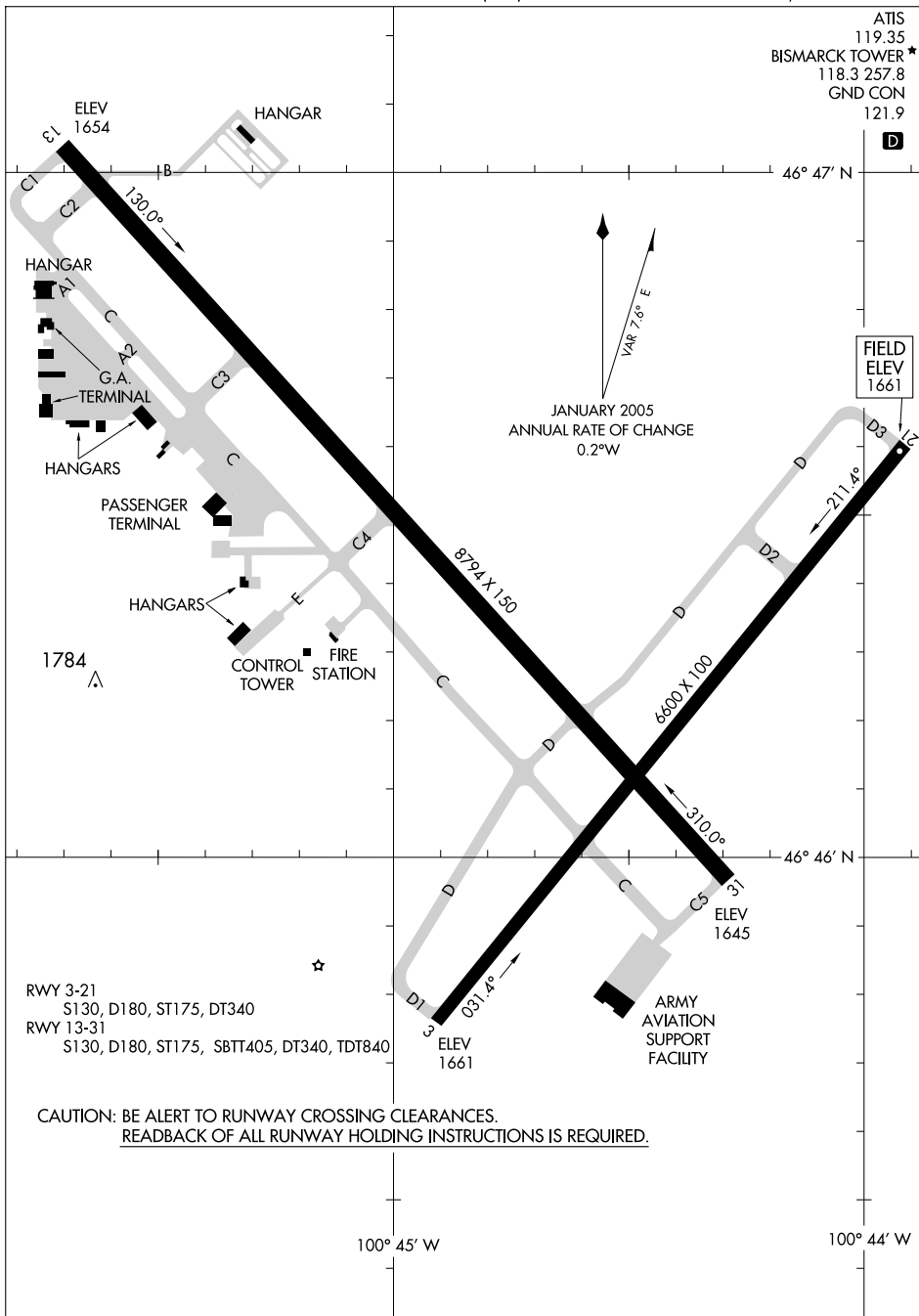
AMDT 2 85003 (FAA)

TAKE-OFF MINIMUMS: **Rwy 31**, 300-1.
DEPARTURE PROCEDURE: **Rwys 1, 13, 19**,
31, climb runway heading to 2400 before
turning.

AIRPORT DIAGRAM

AL-51 (FAA)

BISMARCK MUNI (BIS)
BISMARCK, NORTH DAKOTA



NC-1, 14 JAN 2010 to 11 FEB 2010

LOC I-BIS	APP CRS	Rwy Idg	8794
110.3	307°	TDZE	1645
		Apt Elev	1661

BISMARCK MUNI (BIS)

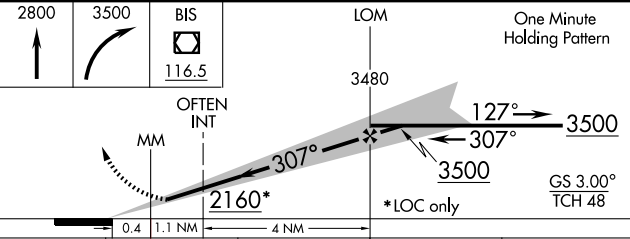
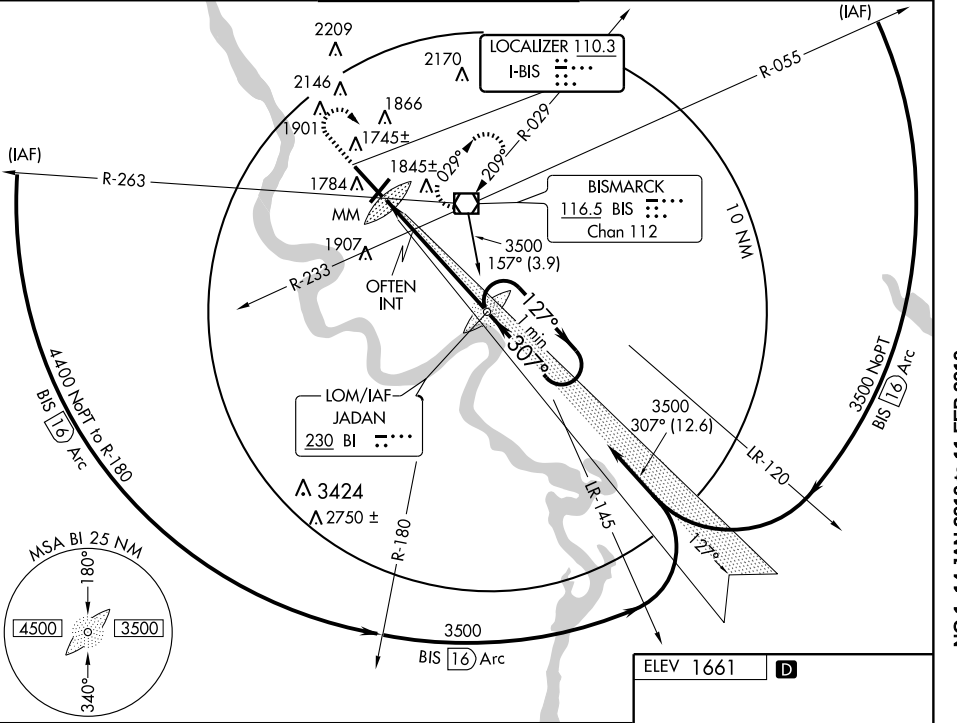
**ASR**

OFTEN INT Cat D increase visibility to 5000 for inoperative MALS.R.
**RVR 1800 authorized with the use of FD or AP or HUD to DA.

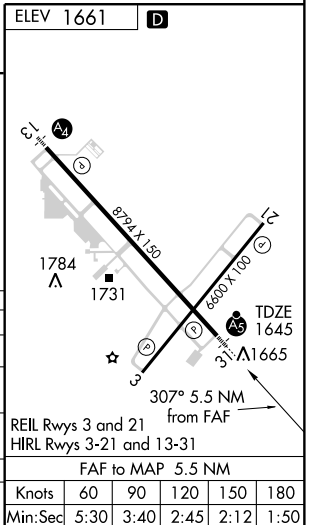
**MALS R**

MISSED APPROACH: Climb to 2800 then climbing right turn to 3500 direct BIS VOR/DME and hold.

ATIS 119.35	BISMARCK APP CON* 126.3 298.9	BISMARCK TOWER* 118.3 (CTAF) 0 257.8	GND CON 121.9	UNICOM 122.95
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CATEGORY	A	B	C	D
S-ILS 31	** 1844/24 200 (200-½)			
S-LOC 31	2160/24	515 (500-½)	2160/50 515 (500-1)	2160/60 515 (500-1½)
CIRCLING	2180-1 519 (600-1)	2200-1 539 (600-1)	2220-1½ 559 (600-½)	2240-2 579 (600-2)
OFTEN INT MINIMUMS				
S-LOC 31	1980/24 335 (400-½)			1980/40 335 (400-¾)



NC-1. 14 JAN 2010 to 11 FEB 2010

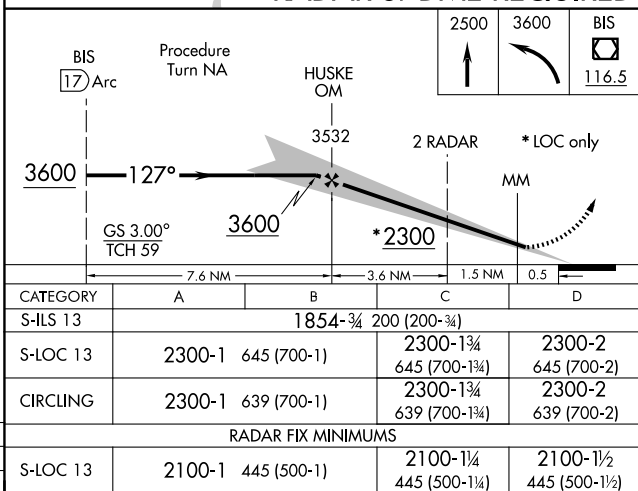
ILS RWY 13
BISMARCK MUNI (BIS)



MISSED APPROACH: Climb to 2500 then climbing left turn to 3600 direct BJS VOR/DME and hold.

[illegible]

RADAR or DME REQUIRED



RNAV (GPS) RWY 3

BISMARCK MUNI (BIS)

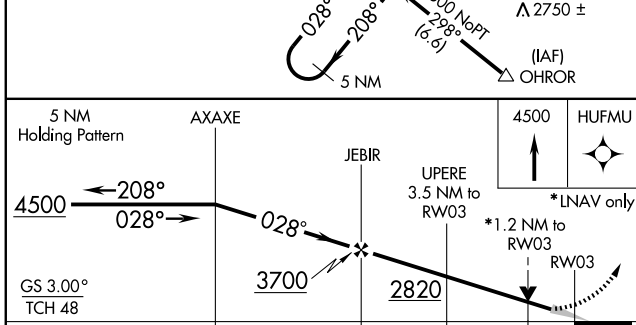
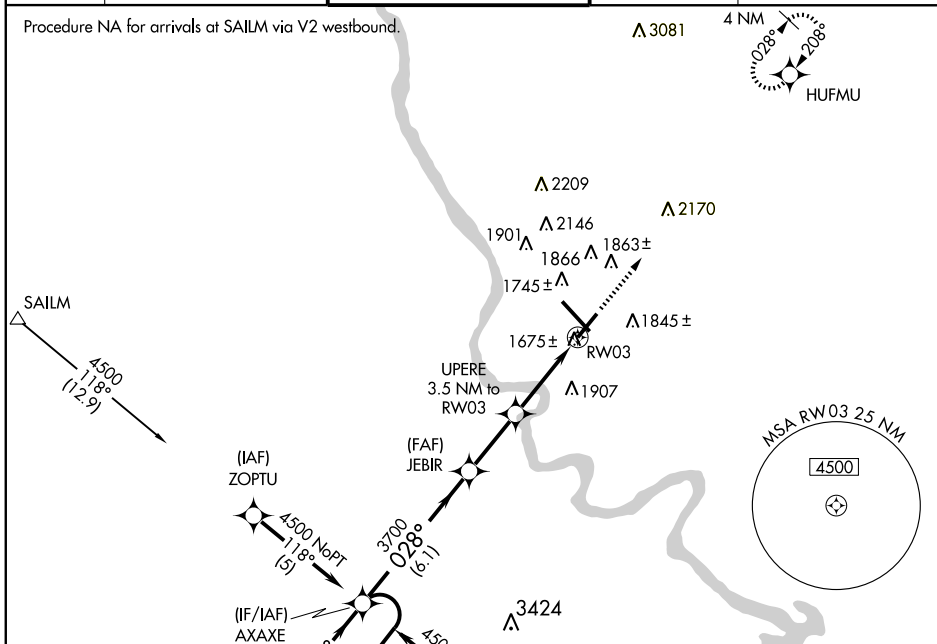
WAAS CH 63099 W03A	APP CRS 028°	Rwy Idg TDZE Apt Elev	6600 1661 1661
--	------------------------	-----------------------------	---

ASR If local altimeter setting not received procedure NA.
Baro-VNAV NA below -18°C (0°F).
DME/DME RNP-0.3 NA.

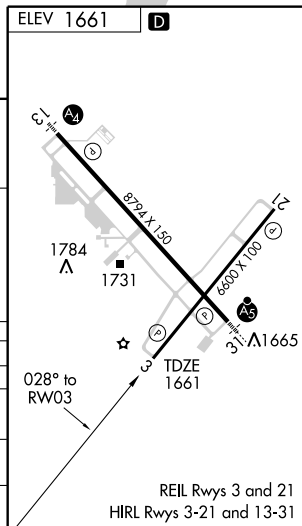
MISSED APPROACH: Climb to 4500 direct HUFMU and hold.

ATIS 119.35	BISMARCK APP CON ★ 126.3 298.9	BISMARCK TOWER ★ 118.3 (CTAF) 257.8	GND CON 121.9	UNICOM 122.95
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Procedure NA for arrivals at SAILM via V2 westbound.



CATEGORY	A	B	C	D
LPV DA	1911-3/4 250 (300-3/4)			
RNAV/VNAV DA	2264-2 603 (700-2)			
RNAV MDA	2080-1 419 (500-1)		2080-1 419 (500-1 1/4)	
CIRCLING	2240-2 579 (600-2)			2320-2 659 (700-2)



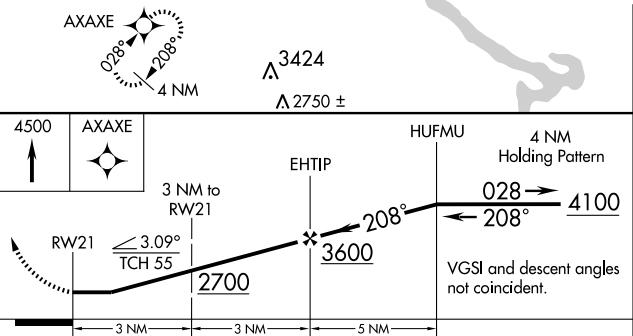
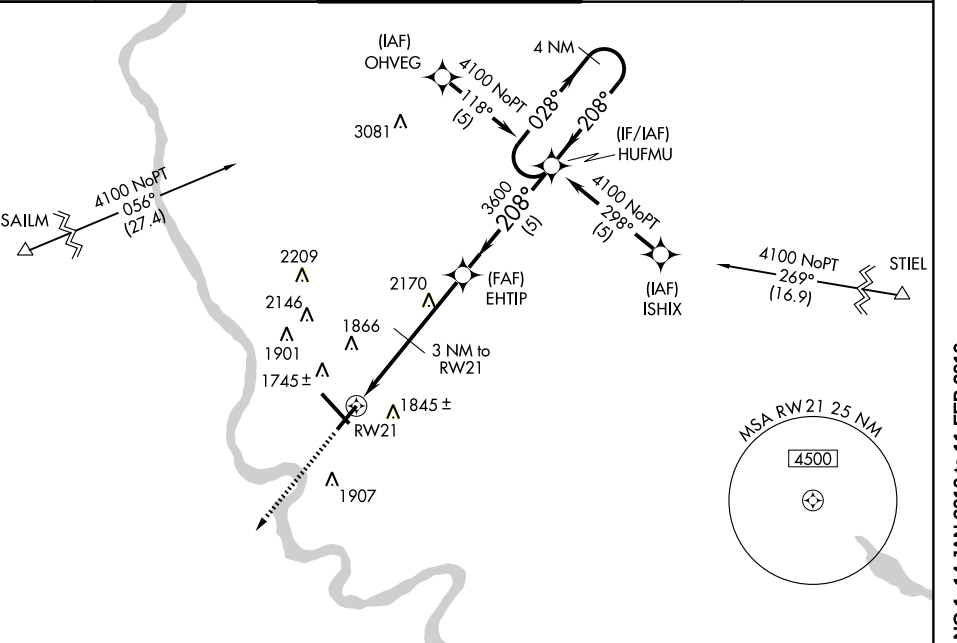
APP CRS	Rwy Idg	6600
208°	TDZE	1661
	Apt Elev	1661

RNAV (GPS) RWY 21

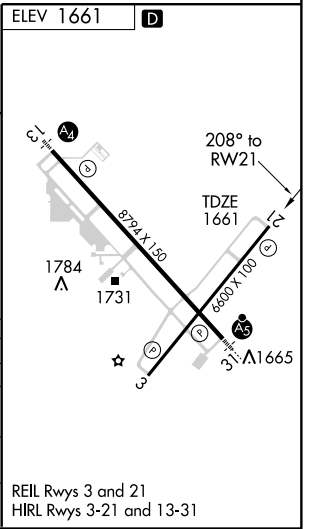
BISMARCK MUNI (BIS)

NA ASR	GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.	MISSED APPROACH: Climb to 4500 direct AXAXE WP and hold.
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ATIS 119.35	BISMARCK APP CON★ 126.3 298.9	BISMARCK TOWER★ 118.3 (CTAF) 257.8	GND CON 121.9	UNICOM 122.95
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CATEGORY	A		B	C	D
GLS	DA		NA		
LNAV/VNAV	DA		NA		
LNAV MDA	2120-1	459 (500-1)	2120-1¼ 459 (500-1¼)	2120-1½ 459 (500-1½)	
CIRCLING	2180-1 519 (600-1)	2200-1 539 (600-1)	2220-1½ 559 (600-1½)	2240-2 579 (600-2)	



NC-1: 14 JAN 2010 to 11 FEB 2010

RNAV (GPS) RWY 31
BISMARCK MUNI (BIS)

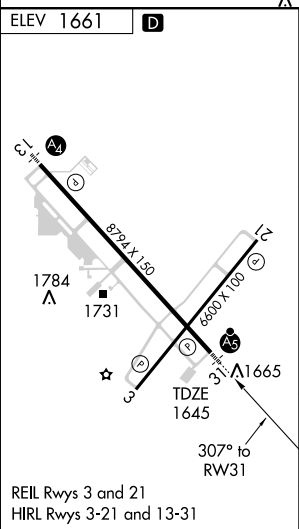
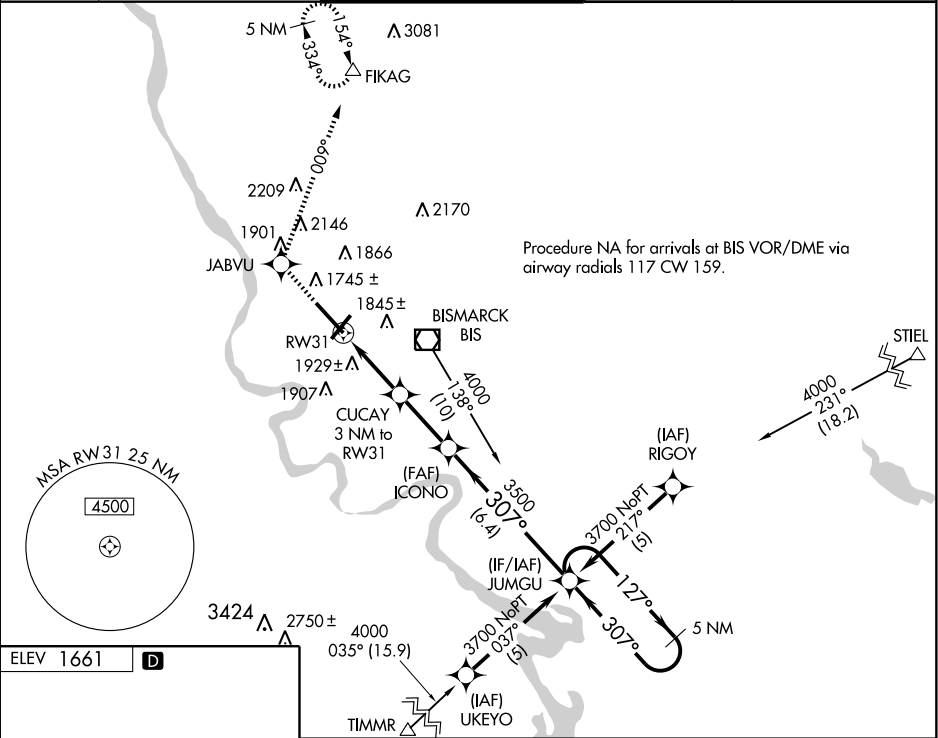
WAAS CH 56599 W31A	APP CRS 307°	Rwy Idg TDZE Apt Elev	8794 1645 1661
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For inoperative MALSR, increase LPV all Cats visibility to 1.
Baro-VNAV NA below -18°C (0°F). DME/DME RNP-0.3 NA.
If local altimeter setting not received, procedure NA.



MISSED APPROACH: Climb to 4100 direct JABVU and via 009° track to FIKAG and hold.

ATIS 119.35	BISMARCK APP CON★ 126.3 298.9	BISMARCK TOWER★ 118.3 (CTAF) 257.8	GND CON 121.9	UNICOM 122.95
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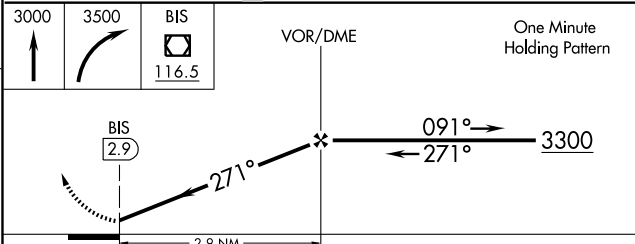
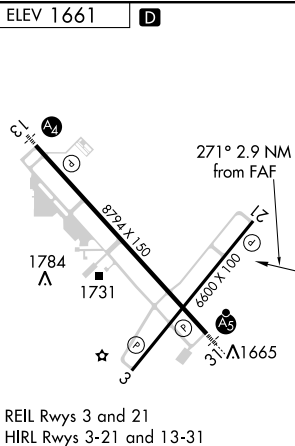
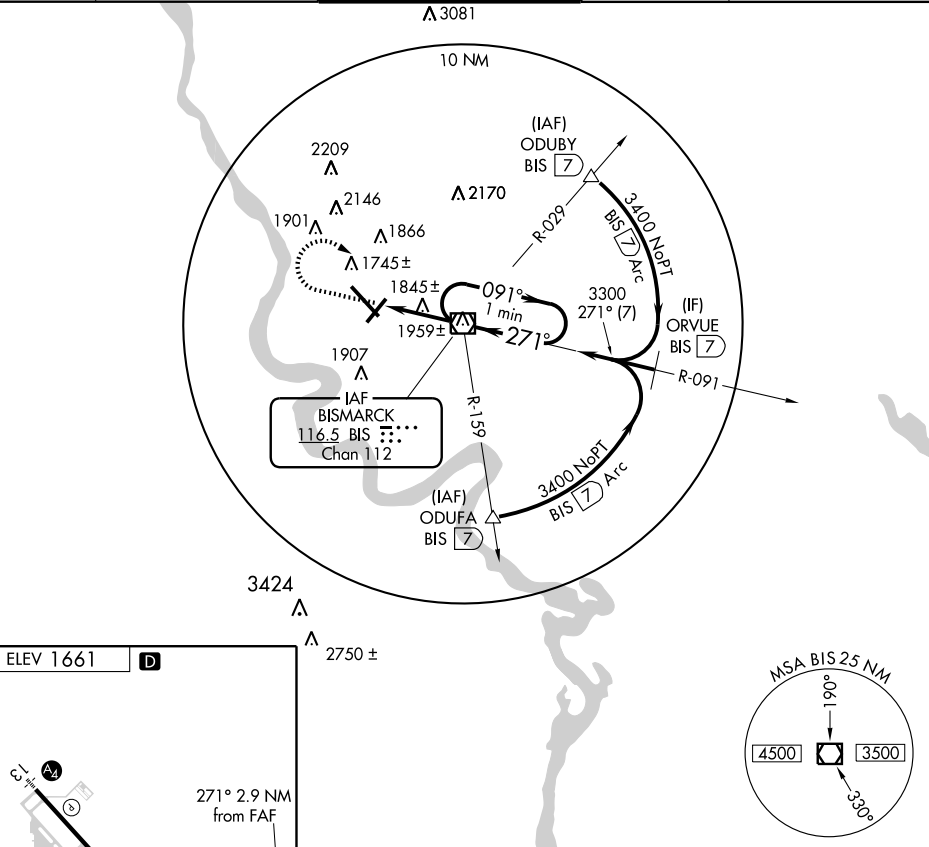
4100 ↑	JABVU ✦	009° Track	FIKAG △	ICONO			JUMGU	5 NM Holding Pattern
*LNAV only				CUCAY 3 NM to RW31	127° → ← 307°		3700	
RW31				*1.5 NM RW31 to RW31	307°	3500	GS 3.00° TCH 48	
1.5 NM				1.5 NM	2.6 NM	6.4 NM		
CATEGORY		A		B		C		D
LPV DA		1909/24 264 (300-½)						
LNAV/ VNAV		2268-1¾ 623 (700-1¾)						
LNAV MDA		2180/24 535 (600-½)			2180/50 535 (600-1)		2180/60 535 (600-1¼)	
CIRCLING		2280-1 619 (700-1)			2280-1¾ 619 (700-1¾)		2320-2 659 (700-2)	

VOR/DME BIS 116.5 Chan 112	APP CRS 271°	Rwy Idg TDZE Apt Elev N/A N/A 1661
--	------------------------	--

ASR If local altimeter setting not received procedure not authorized.

MISSED APPROACH: Climb to 3000 then climbing right turn to 3500 direct BIS VOR/DME and hold.

ATIS 119.35	BISMARCK APP CON ★ 126.3 298.9	BISMARCK TOWER ★ 118.3 (CTAF) 257.8	GND CON 121.9	UNICOM 122.95
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FAF to MAP 2.9 NM						CATEGORY	A	B	C	D
Knots	60	90	120	150	180	CIRCLING	2240-1	579 (600-1)	2240-1½ 579 (600-1½)	2320-2 659 (700-2)
Min:Sec	2:54	1:56	1:27	1:10	0:58					

▼

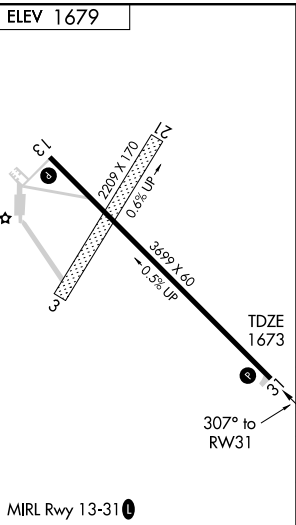
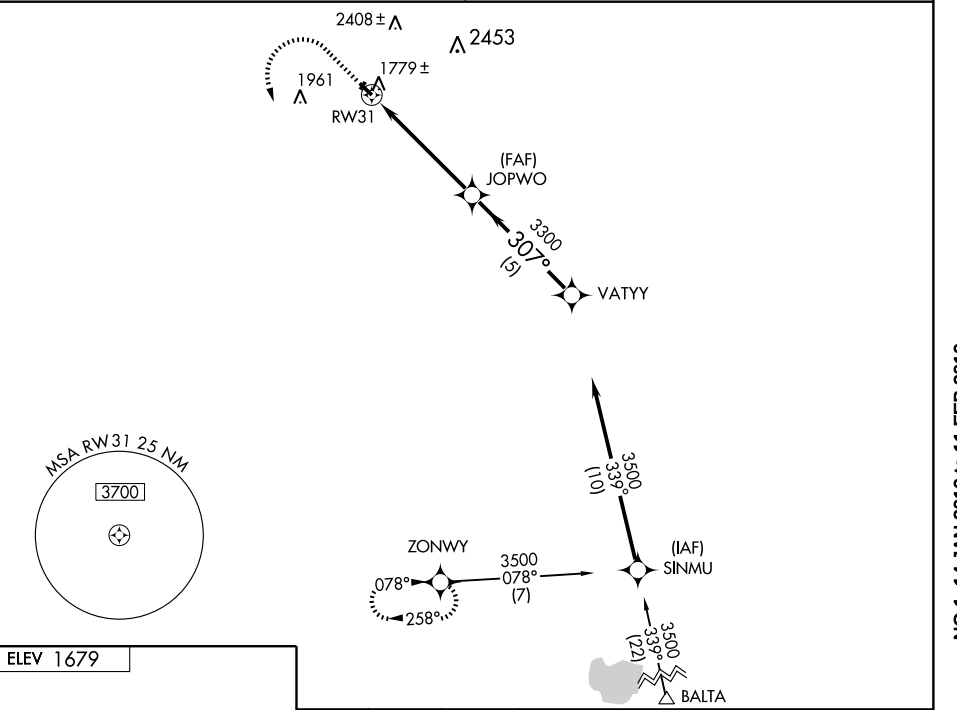
▲ NA

Use Minot Air Force Base altimeter setting, if not received; use Devils Lake altimeter setting.

MISSED APPROACH: Climb to 2900 then climbing left turn to 3500 direct ZONWY WP and hold.

MINOT APP CON ★
119.6 363.8

UNICOM
122.8 (CTAF) 0



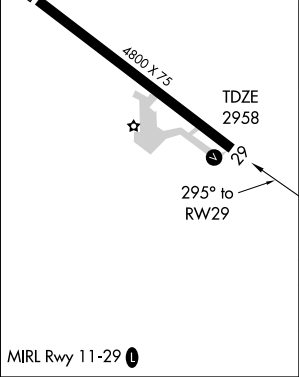
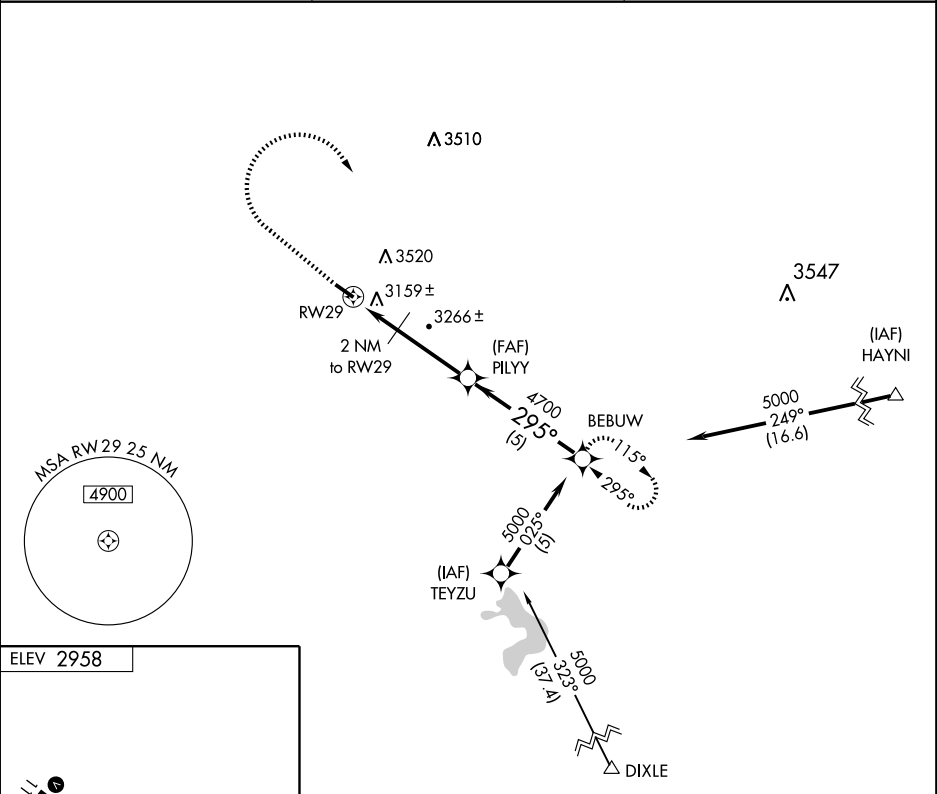
	2900	3500	ZONWY		VATYY
	↑	↶	✧		
				JOPWO	3500
				3300	307°
				RW31	
				5 NM	5 NM
					Procedure Turn NA
CATEGORY	A	B	C	D	
S-31	2140-1	467 (500-1)			NA
CIRCLING	2200-1	521 (600-1)			NA
DEVILS LAKE ALTIMETER SETTING MINIMUMS					
S-31	2240-1	567 (600-1)			NA
CIRCLING	2300-1	621 (700-1)			NA

NC-1, 14 JAN 2010 to 11 FEB 2010

APP CRS	Rwy Idg	4800
295°	TDZE	2958
	Apt Elev	2958

▲ NA	MISSED APPROACH: Climb to 4000 then climbing right turn to 5000 direct BEBUW WP and hold.
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AWOS-3 374	GRAND FORKS RADIO 122.4	UNICOM 122.8 (CTAF) 0
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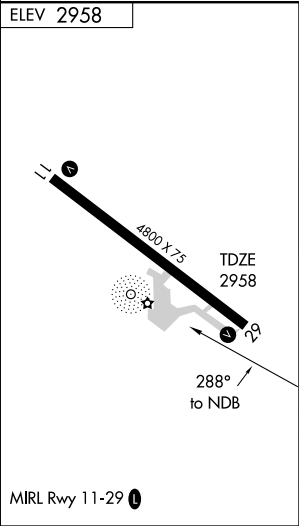
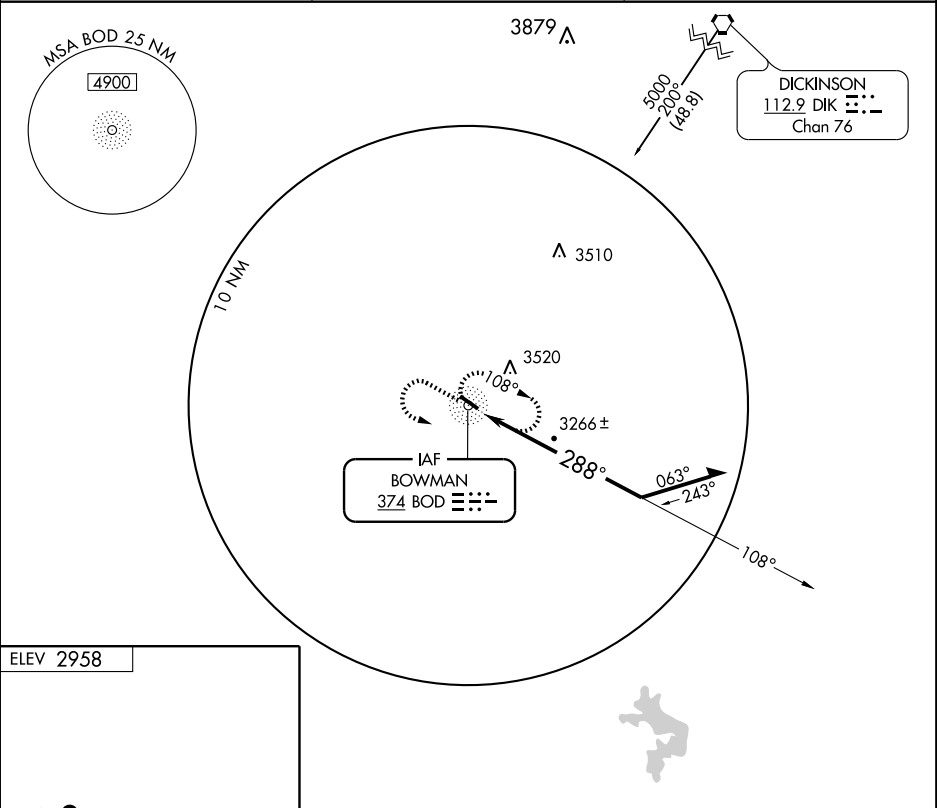
	4000	5000	BEBUW	Procedure Turn NA
CATEGORY	A	B	C	D
S-29	3420-1	462 (500-1)	3420-1¼ 462 (500-1¼)	NA
CIRCLING	3520-1 562 (600-1)	3600-1 642 (700-1)	3800-2½ 842 (900-2½)	NA

NDB RWY 29
BOWMAN MUNI (BPP)

NDB BOD	APP CRS	Rwy Idg TDZE	4800
374	288°	Apt Elev	2958

▲ NA	MISSED APPROACH: Climb to 4000 then climbing left turn to 4800 direct BOD NDB and hold.
------	---

AWOS-3 374	GRAND FORKS RADIO 122.4	UNICOM 122.8 (CTAF) 0
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4000	4800	BOD 374	NDB	Remain within 10 NM
↑	↶	○	108°	4800
			288°	
CATEGORY	A	B	C	D
S-29	3620-1	662 (700-1)	3620-1 ¾ 662 (700-1 ¾)	NA
CIRCLING	3620-1	662 (700-1)	3800-2 ½ 842 (900-2 ½)	NA

APP CRS	Rwy Idg	4198
313°	TDZE	1604
	Apt Elev	1606

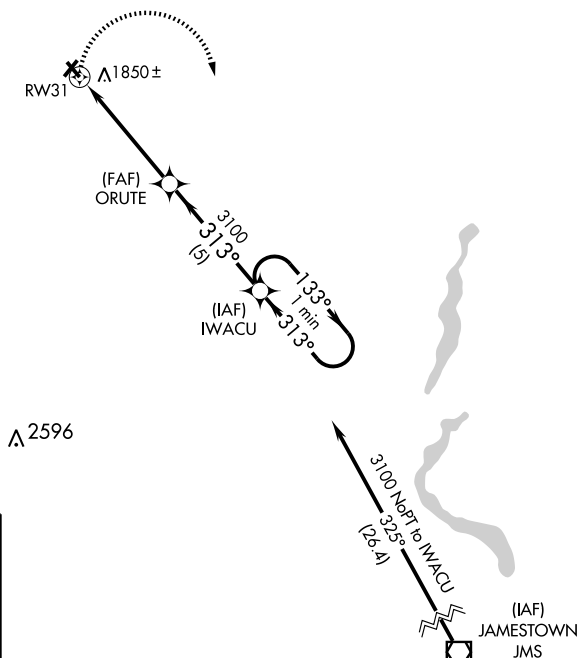
A NA Use Jamestown altimeter setting.
Procedure NA at night.

MISSED APPROACH: Climbing right turn to 3100 direct IWACU WP and hold.

AWOS-3
118.575

MINNEAPOLIS CENTER
124.2 270.3

CTAF
122.9 **L**



NC-1. 14 JAN 2010 to 11 FEB 2010

ELEV 1606

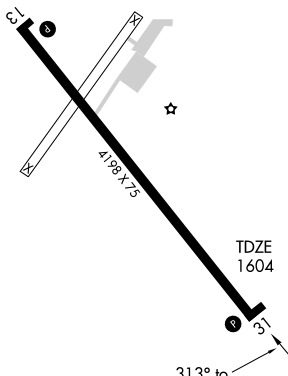
MIRL Rwy 13-31 **L**

Diagram illustrating the One Minute Holding Pattern for RW31. The pattern is defined by a series of turns around a fix (marked with a cross). The fix is labeled RW31. The pattern is labeled 3100. The distance between the fix and the start of the pattern is 5 NM. The distance between the fix and the end of the pattern is 5 NM. The pattern is labeled 3100. The fix is also labeled ORUTE and IWACU. The pattern is labeled 3100. The pattern is labeled 3100.

APP CRS
128°

Rwy Idg
3900

TDZE
933

Apt Elev
933

RNAV (GPS) RWY 13

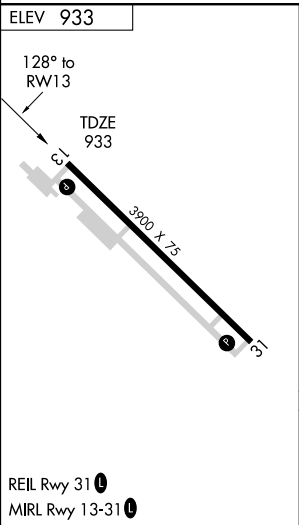
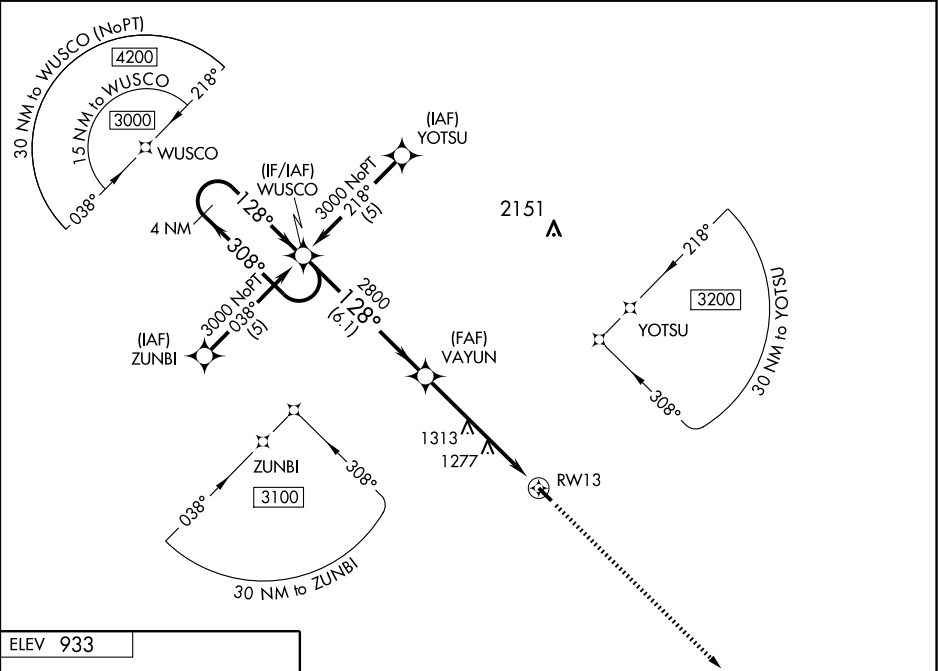
CASSELTON ROBERT MILLER RGNL (5N8)

▼ Use Fargo altimeter setting; when not received use
▲ NA Morehead altimeter setting and increase all MDA 20 feet.
DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 3000
direct JINPU and hold.

FARGO APP CON ★
120.4 377.15

UNICOM
122.8 (CTAF) 0



4 NM Holding Pattern		VGSI and descent angles not coincident.		3000	JINPU
WUSCO		VAYUN		↑	✦
3000 ← 308°		128° →		128°	
3000		2800		3.05° TCH 40	
6.1 NM		5.7 NM		RW13	
CATEGORY	A	B	C	D	
LNAV MDA	1620-1	687 (700-1)	1620-2 687 (700-2)	NA	
CIRCLING	1620-1	687 (700-1)	1620-2 687 (700-2)	NA	

WAAS
CH 53607
W31A

APP CRS
308°

Rwy Idg	3900
TDZE	933
Apt Elev	933

RNAV (GPS) RWY 31

CASSELTON ROBERT MILLER RGNL (5N8)

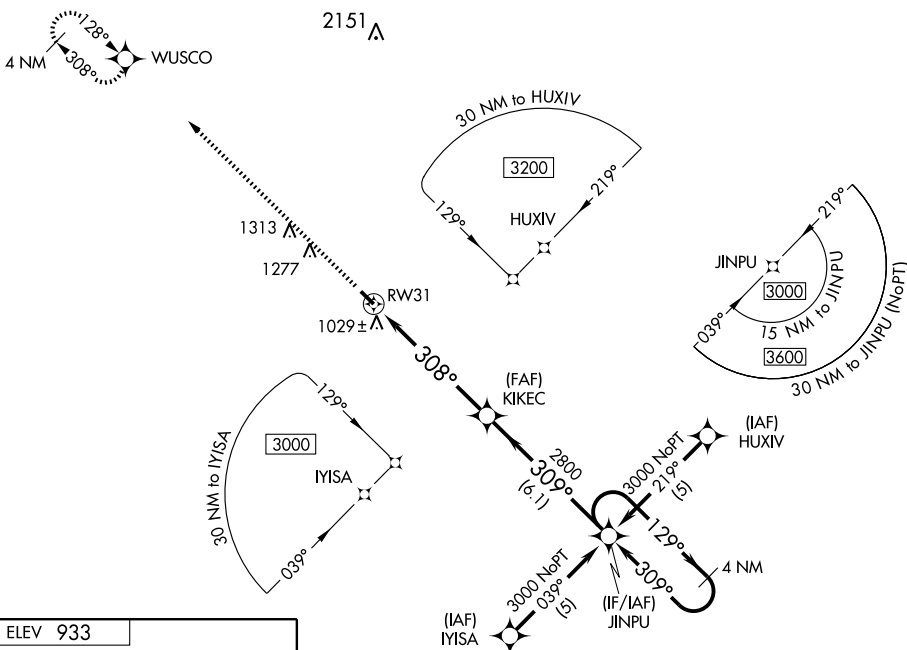


ANA

Use Fargo altimeter setting; when not received, use Morehead altimeter setting and increase all DA 11 feet and all MDA 20 feet, increase LNAV Cat C visibility $\frac{1}{4}$ mile. Baro-VNAV NA. Visibility reduction by helicopters NA. DME/DME RNP-0.3 NA.

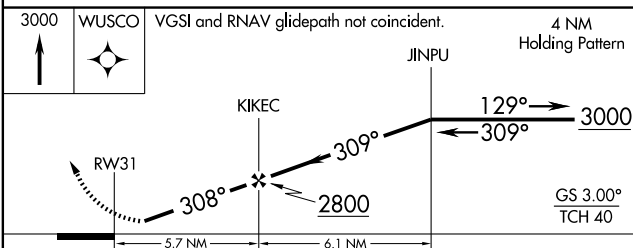
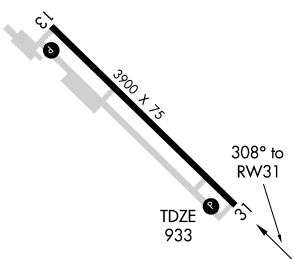
MISSED APPROACH: Climb to 3000
direct WUSCO and hold.

FARGO APP CON ★
120.4 377.15

UNICOM
122.8 (CTAF) **L**

NC-1. 14 JAN 2010 to 11 FEB 2010

ELEV 933



CATEGORY		A	B	C	D
LPV	DA	1226-1 293 (300-1)			NA
INAV/ VNAV	DA	1370-1½ 437 (500-1½)			NA
LNAV MDA		1420-1 487 (500-1)		1420-1¼ 487 (500-1¼)	NA
CIRCLING		1420-1 487 (500-1)		1420-1½ 487 (500-1½)	NA

REIL Rwy 31 **L**MIRL Rwy 13-31 **L**

VORTAC FAR	APP CRS	Rwy Idg	3900
116.2	283°	TDZE	929
Chan 109		Apt Elev	933

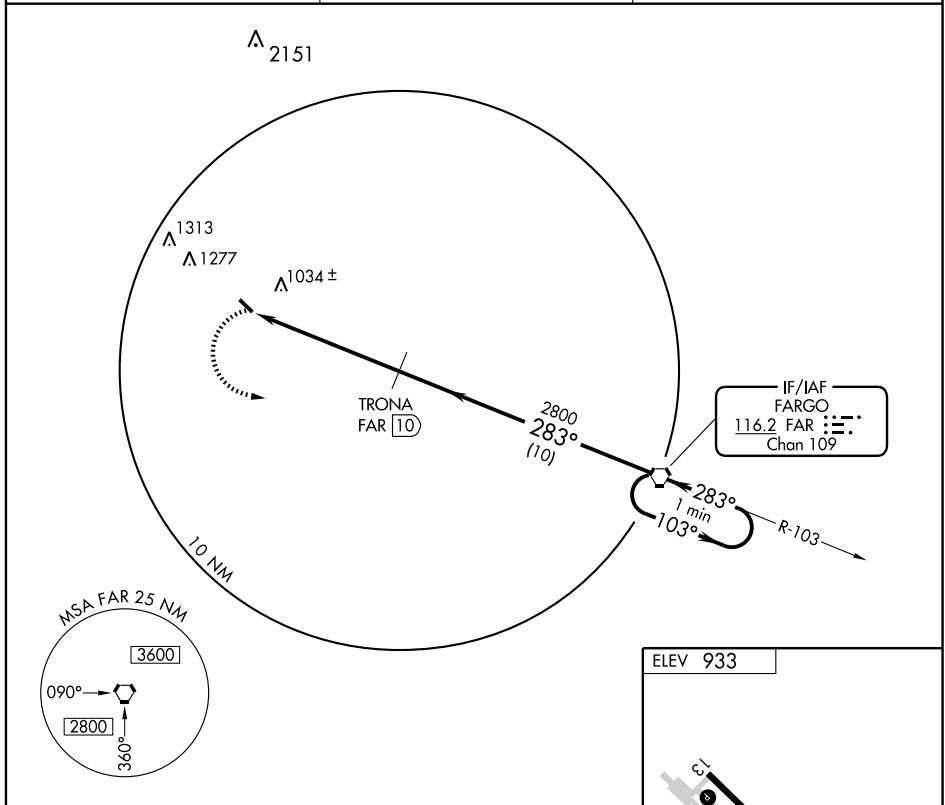
VOR/DME RWY 31

CASSELTON ROBERT MILLER RGNL (5N8)

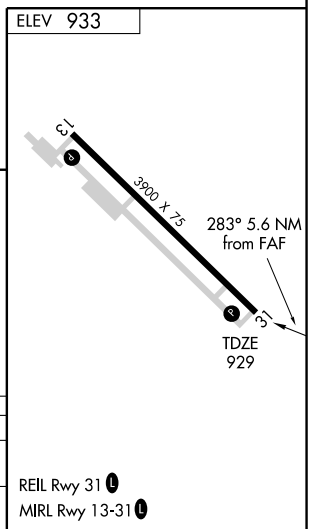
▼ Use Fargo altimeter setting; if not received, use Morehead altimeter setting.
▲ NA

MISSED APPROACH: Climbing left turn to 2800 direct FAR VORTAC and hold.

FARGO ASOS 124.5	FARGO APP CON ★ 120.4 377.15	UNICOM 122.8 (CTAF) 0
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2800	FAR	TRONA FAR 10	VORTAC	One Minute Holding Pattern
116.2				
FAR 15.6		283°	103°	2800
		2800	283°	
		3.07°		
		TCH 40		
		5.6 NM	10 NM	
				VGSI and descent angles not coincident
CATEGORY	A	B	C	D
S-31	1360-1	431 (500-1)	1360-1¼ 431 (500-1¼)	NA
CIRCLING	1400-1	467 (500-1)	1400-1½ 467 (500-1½)	NA



REIL Rwy 31 0

MIRL Rwy 13-31 0

APP CRS	Rwy Idg	3299
340°	TDZE	892
	Apt Elev	892

RNAV (GPS) RWY 34
CAVALIER MUNI (2C8)

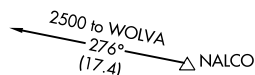
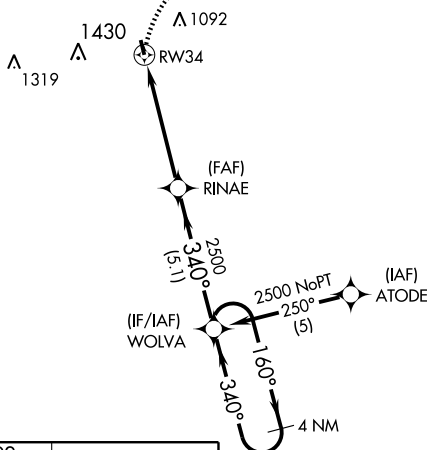
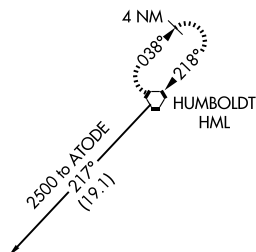
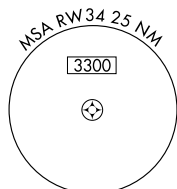
T	Use Hallock altimeter setting.
A NA	GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climbing right turn to 3500 direct HML VORTAC and hold.

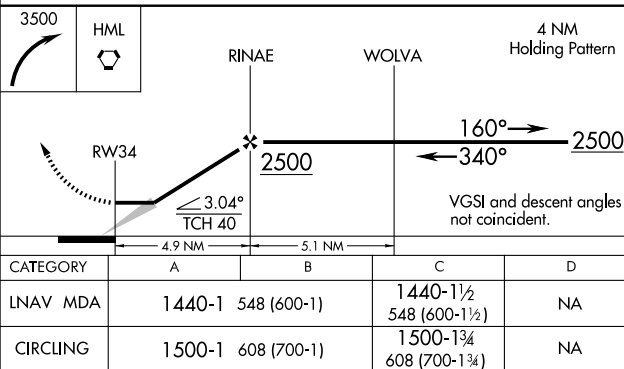
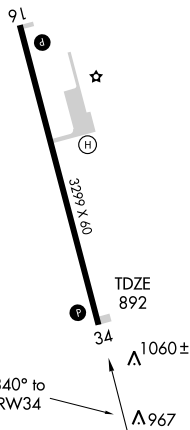
AWOS-3
118,275

GRAND FORKS RADIO
122.3

UNICOM
122.8 (CTAF) **L**



ELEV	892
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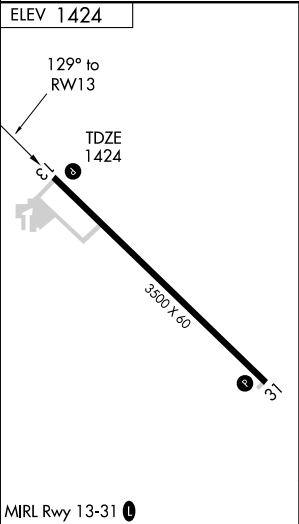
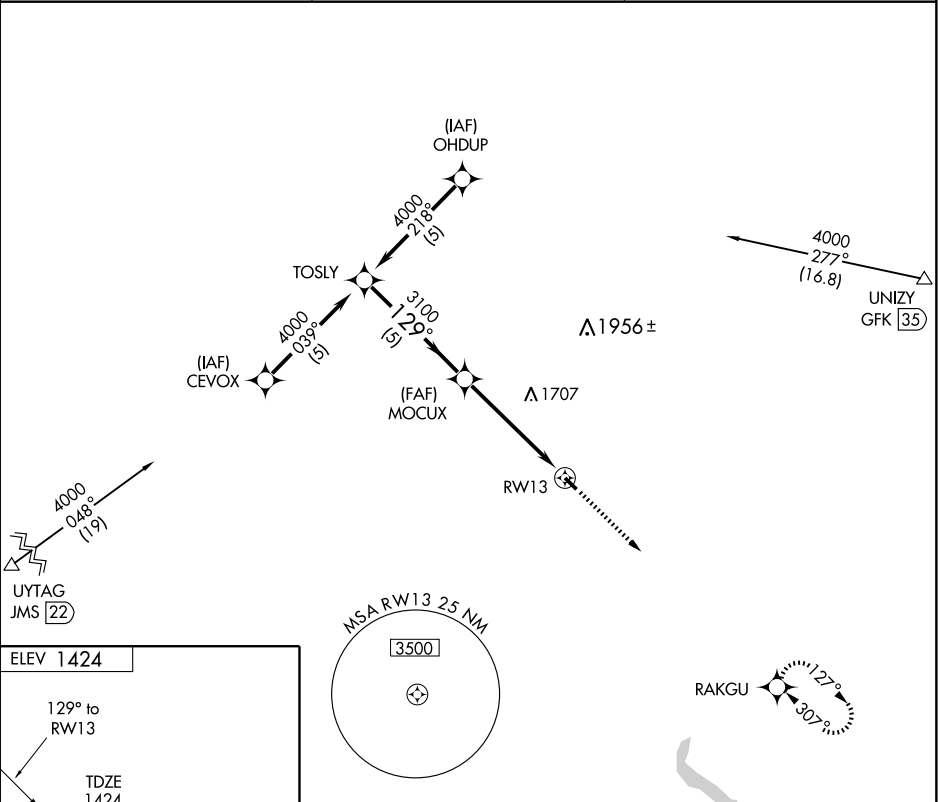


APP CRS	Rwy Idg	3500
129°	TDZE	1424
	Apt Elev	1424

GPS RWY 13
COOPERSTOWN MUNI (S32)

▲ NA	Use Jamestown altimeter setting.	MISSED APPROACH: Climb to 3100 direct RAKGU WP and hold.
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AWOS-3 118.750	GRAND FORKS RADIO 123.6	CTAF 122.9 0
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TOSLY 4000 129° MOCUX 3100 RW13 5 NM 5 NM				3100 RAKGU
CATEGORY	A	B	C	D
S-13	2020-1	596 (600-1)	2020-1½ 596 (600-1½)	NA
CIRCLING	2020-1	596 (600-1)	2020-1½ 596 (600-1½)	NA

APP CRS
309°

Rwy Idg	3500
TDZE	1424
Apt Elev	1424

GPS RWY 31



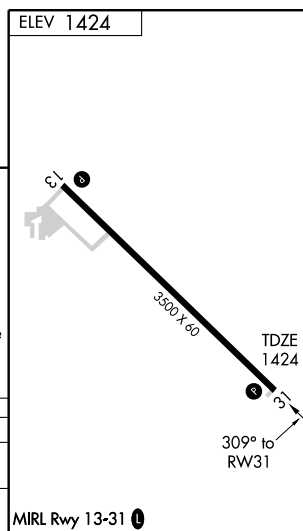
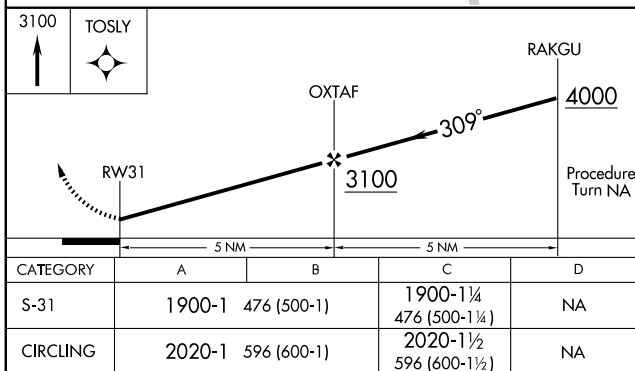
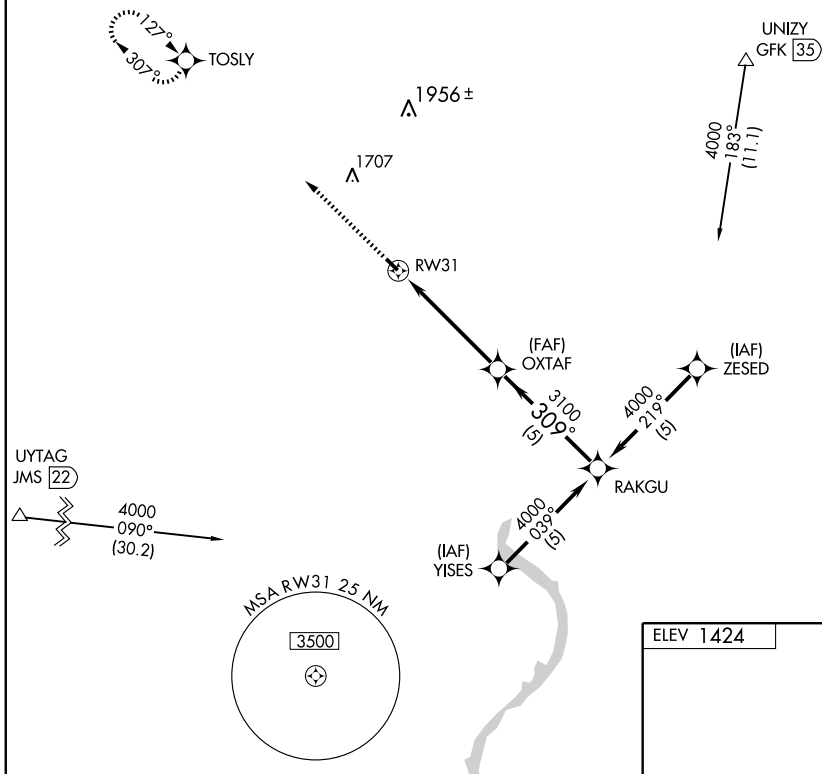
Use Jamestown altimeter setting.

MISSED APPROACH: Climb to 3100 direct TOSLY WP and hold.

AWOS-3
118.750

GRAND FORKS RADIO
123.6

CTAF
122.9 **L**

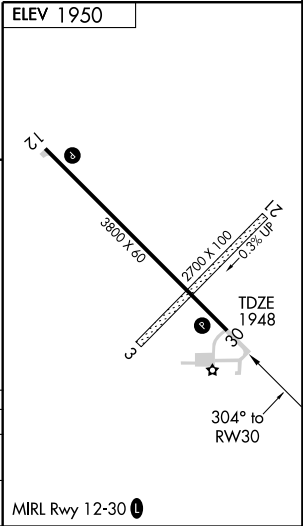
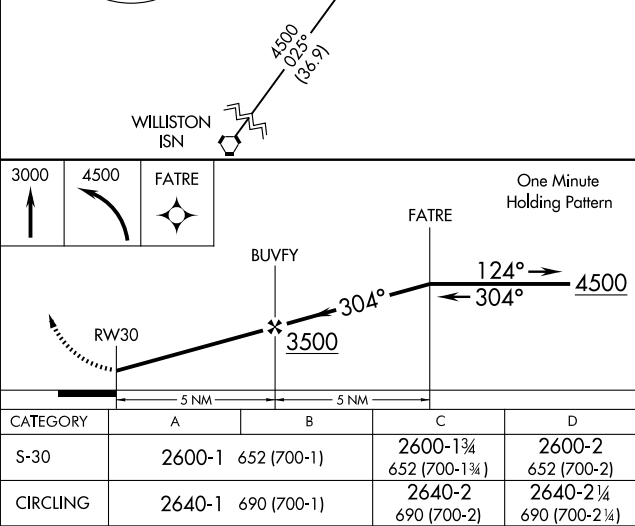
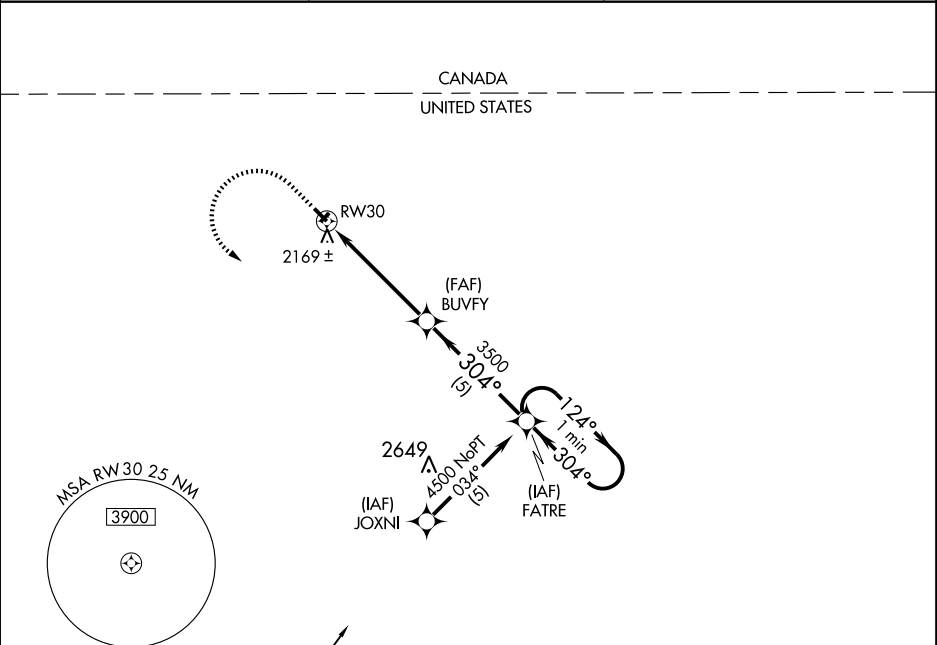


GPS RWY 30
CROSBY MUNI (D50)

APP CRS	Rwy Idg	3800
304°	TDZE	1948
	Apt Elev	1950

▲ NA	Use Williston altimeter setting.	MISSED APPROACH: Climb to 3000, then climbing left turn to 4500 direct FATRE WP and hold.
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AWOS-3 118.025	SALT LAKE CITY CENTER 126.85 305.2	CTAF 122.9 0
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LOC I-VKE <u>108.7</u>	APP CRS 311°	Rwy Idg 4866 TDZE 1448 Apt Elev 1455
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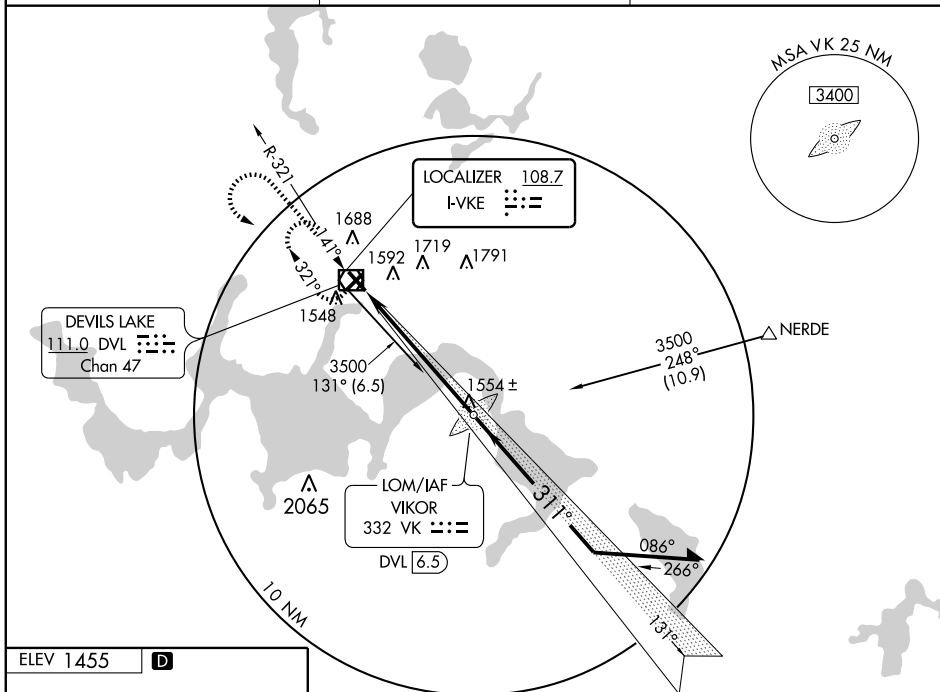
ILS or LOC RWY 31
DEVILS LAKE RGNL (DVL)

T Inoperative table does not apply to S-ILS 31.
A NA For inoperative MALSR increase S-LOC 31 Cat A, B, C visibility to 1 mile.

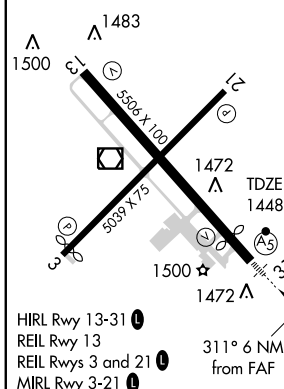


MISSED APPROACH: Climb to 3500 then left turn direct DVL VOR/DME and hold.

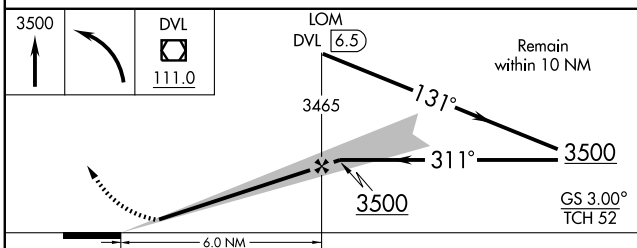
AWOS-3 125.875	GRAND FORKS RADIO 122.3	UNICOM 122.8 (CTAF) 0
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ELEV 1455	D
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DME OR ADF REQUIRED



HIRL Rwy 13-31 (1)		CATEGORY	A	B	C	D
REIL Rwy 13		S-ILS 31	1698- $\frac{3}{4}$	250 (300- $\frac{3}{4}$)		
REIL Rwy 3 and 21 (1)		S-LOC 31	1800- $\frac{3}{4}$	352 (400- $\frac{3}{4}$)		
MIRL Rwy 3-21 (1)						
FAF to MAP 6 NM						
Knots	60	90	120	150	180	
Min:Sec	6:00	4:00	3:00	2:24	2:00	
			CIRCLING	2000-1 545 (600-1)	2000-1 $\frac{1}{2}$ 545 (600-1 $\frac{1}{2}$)	2080-2 625 (700-2)

WAAS CH 93608 W03A	APP CRS 038°	Rwy Idg 4856 TDZE 1450 Apt Elev 1455
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RNAV (GPS) RWY 3

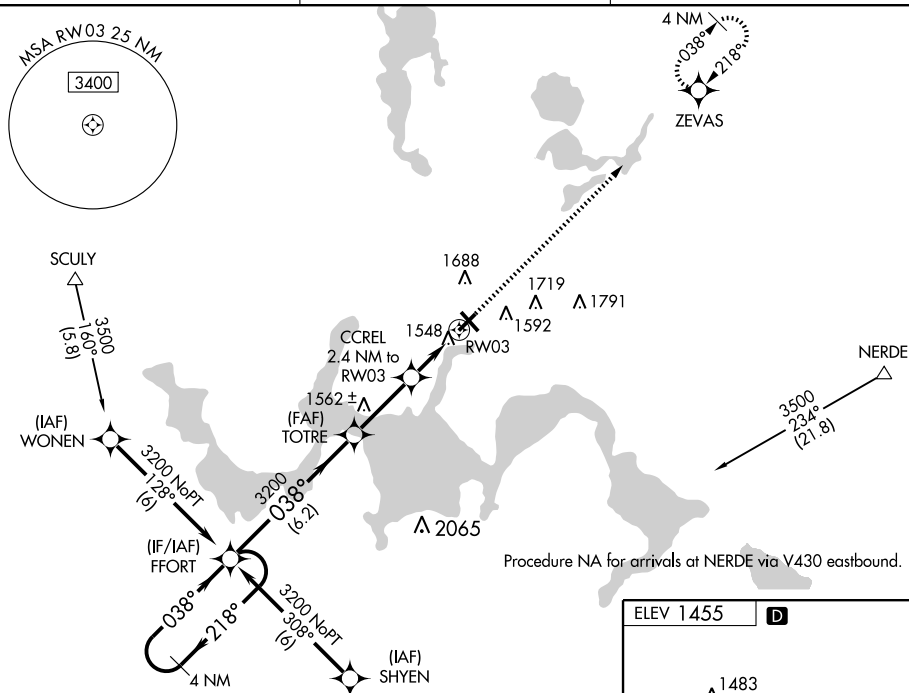
DEVILS LAKE RGNL (DVL)

▼ Baro-VNAV NA when using Jamestown altimeter setting.
▲ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F).
 DME/DME RNP -0.3 NA. Visibility reduction by helicopters NA.
 When local altimeter setting not received, use Jamestown altimeter setting and increase all DA 173 feet, and all MDA 180 feet, increase LPV and LNAV/VNAV all Cats visibility ¾ mile, LNAV and Circling Cats C and D visibility ½ mile.

MISSED APPROACH: Climb to 3500 direct ZEVAS and hold.

AWOS-3
125.875

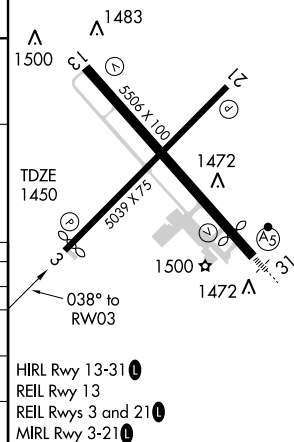
GRAND FORKS RADIO
122.3

UNICOM
122.8 (CTAF) **L**

Procedure NA for arrivals at NERDE via V430 eastbound.

ELEV 1455

D



VGSI and descent angles not coincident.

3500	ZEVAS
------	-------

4 NM
Holding Pattern

$$\begin{array}{ccc} \leftarrow 218^\circ & & \\ \hline 3200 & & 038^\circ \\ 038^\circ & \rightarrow & \\ \hline \end{array}$$

CCREL
2.4 NM to
RW03

* INAV only

ENVIRONMENT

RW03



Year	Actual (%)	Projected (%)
1950	7.0	-
1960	8.5	-
1970	10.0	-
1980	11.0	-
1990	12.0	12.0
2000	-	13.0
2010	-	14.0
2020	-	14.5
2030	-	15.0
2040	-	15.0
2050	-	15.0

D

1800-11

3.50 (400-1)

2080 2

2080-2
125 1700

625 (700-

CATEGORY	A	B	C	D
LPV DA	1775-1 325 (400-1)			
LNAV/ VNAV DA	1821-1¼ 371 (400-1¼)			
LNAV MDA	1800-1 350 (400-1)			1800-1¼ 350 (400-1¼)
CIRCLING	2000-1 545 (600-1)		2000-1½ 545 (600-1½)	2080-2 625 (700-2)

WAAS CH 78314 W13A	APP CRS 131°	Rwy Idg 5506 TDZE 1456 Apt Elev 1456
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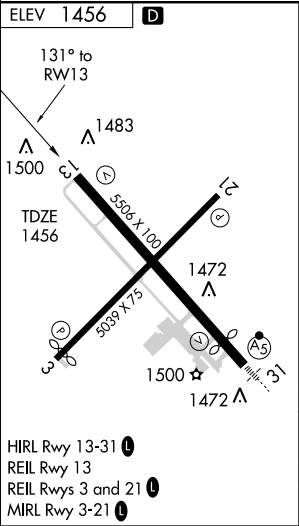
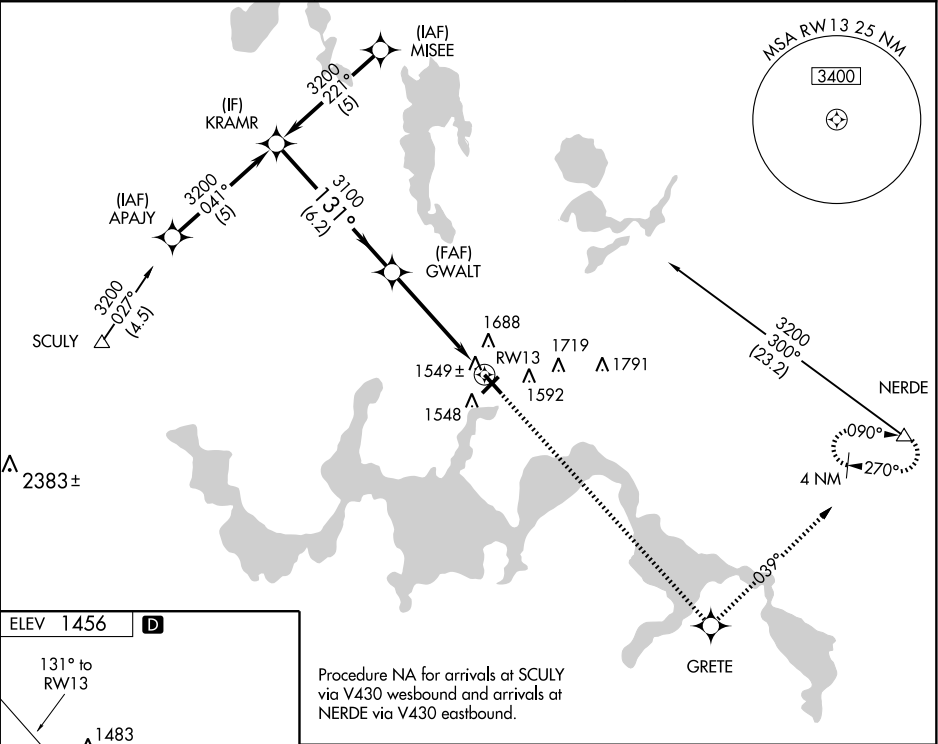
RNAV (GPS) RWY 13

DEVILS LAKE RGNL (DVL)

Baro-VNAV NA when using Jamestown altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Jamestown altimeter setting and increase all DA 172 feet, and all MDA 180 feet, increase LPV all Cats visibility ¾ mile, LNAV/VNAV all Cats ½ mile, LNAV Cat C ¼ mile, Cat D ½ mile, circling Cats C and D ½ mile. VDP NA when using Jamestown altimeter setting.

MISSED APPROACH:
Climb to 3300 direct GRETE and left turn via track 039° to NERDE and hold.

AWOS-3 125.875	GRAND FORKS RADIO 122.3	UNICOM 122.8 (CTAF)
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Procedure Turn NA		* LNAV only.		3300	GRETE	NERDE
3200		131°		↑		TRK 039°
GS 3.00° TCH 52		3100		* 1.1 NM to RW13		
6.2 NM		3.8 NM		1.1		
CATEGORY	A	B	C	D		
LPV DA	1768-1		312 (400-1)			
LNAV/VNAV DA	1956-1¾		500 (500-1¾)			
LNAV MDA	1860-1	404 (500-1)	1860-1¼	404 (500-1¼)		
CIRCLING	2000-1	544 (600-1)	2000-1½	2080-2		
			544 (600-1½)	624 (700-2)		

WAAS CH 58314 W31A	APP CRS 311°	Rwy Idg 4866 TDZE 1449 Apt Elev 1456
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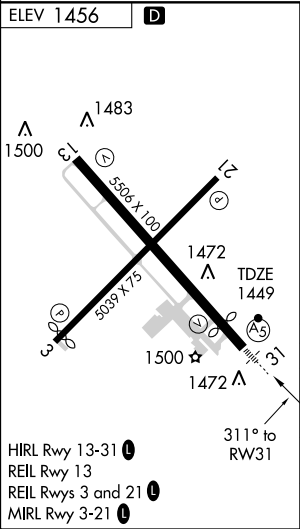
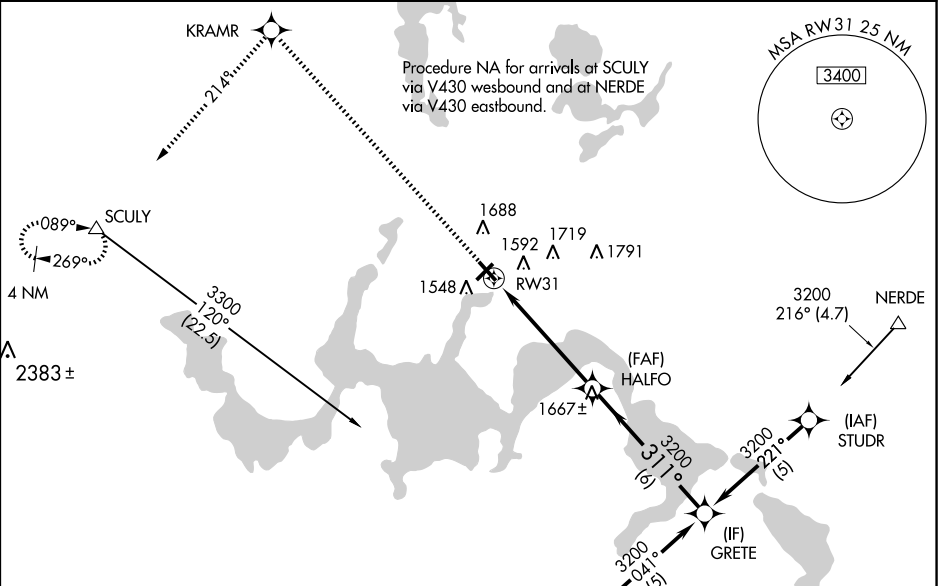
RNAV (GPS) RWY 31
DEVILS LAKE RGNL (DVL)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA. For inoperative MALSR, increase visibility LNAV Cat D 1 ¼ mile. When local altimeter setting not received, use Jamestown altimeter setting and increase all DA 172 feet, all MDA 180 feet, increase LPV all Cats visibility ½ mile, LNAV/VNAV all Cats ¾ mile, LNAV Cat C ½ mile, Cat D ¼ mile, circling Cats C and D ½ mile. Baro-VNAV and VDP NA when using Jamestown altimeter setting. For inoperative MALSR, when using Jamestown altimeter setting, increase LPV all Cats visibility to 1 ½ mile.

MALSR

MISSED APPROACH:
Climb to 3600 direct KRAMR and left turn via Track 214° to SCULY and hold.

AWOS-3 125,875	GRAND FORKS RADIO 122.3	UNICOM 122.8 (CTAF) 0
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3600	KRAMR	SCULY	HALFO	GRETE
↑		TRK 214°		
		*1 NM to RWY 31		
		RWY 31		
		*LNAV only.		
		1 NM	4.3 NM	6 NM
				311°
				3200
				Procedure Turn NA
				GS 3.00°
				TCH 52
CATEGORY	A	B	C	D
LPV DA	1699-½	250 (300-½)		
LNAV/VNAV DA	1907-1	458 (500-1)		
LNAV MDA	1800-½	351 (400-½)		
CIRCLING	2000-1	544 (600-1)	2000-1½	2080-2
			544 (600-1½)	624 (700-2)

VOR/DME DVL	APP CRS	Rwy Idg	4856
111.0	030°	TDZE	1450
Chan 47		Apt Elev	1455

VOR RWY 3
DEVILS LAKE RGNL (DVL)

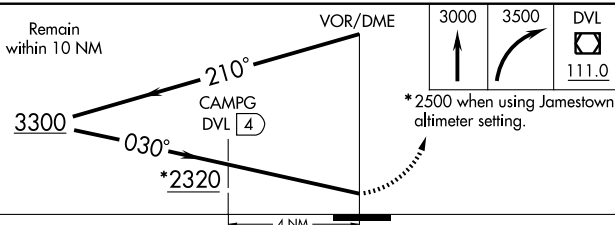
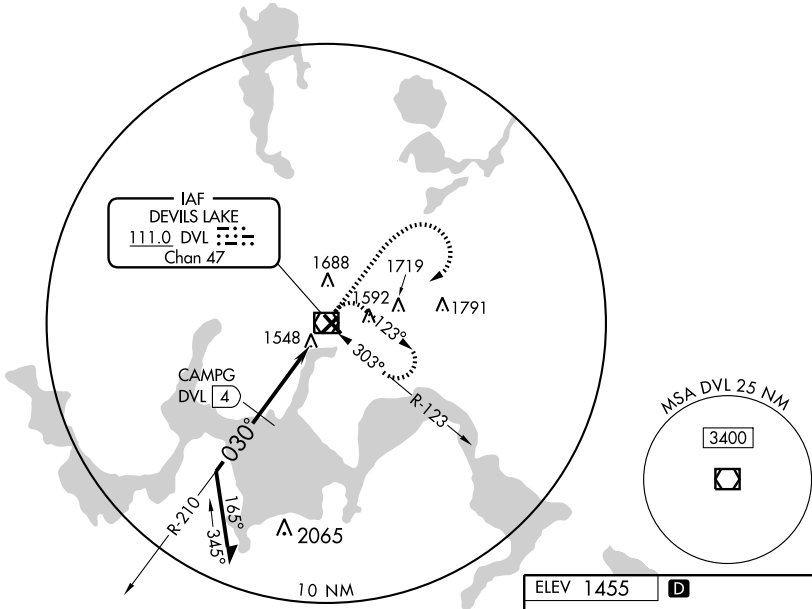
Visibility reduction by helicopters NA.
When local altimeter setting not received, use Jamestown altimeter setting and increase all MDA 180 feet, increase S-3 and Circling visibility Cat. A/B and D ¼ mile, Cat. C ½ mile, increase CAMPG FIX MINIMUMS S-3 and Circling Cat. C and D visibility ½ mile.

MISSED APPROACH: Climb to 3000 then climbing right turn to 3500 direct DVL VOR/DME and hold.

AWOS-3
125.875

GRAND FORKS RADIO
122.3

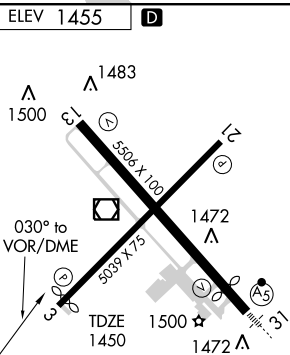
UNICOM
122.8 (CTAF)



CATEGORY	A	B	C	D
S-3	2320-1 870 (900-1)	2320-1¼ 870 (900-1¼)	2320-2½ 870 (900-2½)	2320-2¾ 870 (900-2¾)
CIRCLING	2320-1 865 (900-1)	2320-1¼ 865 (900-1¼)	2320-2½ 865 (900-2½)	2320-2¾ 865 (900-2¾)

CAMPG FIX MINIMUMS

S-3	1800-1 350 (400-1)	1800-1¼ 350 (400-1¼)
CIRCLING	2000-1 545 (600-1)	2000-1½ 545 (600-1½)

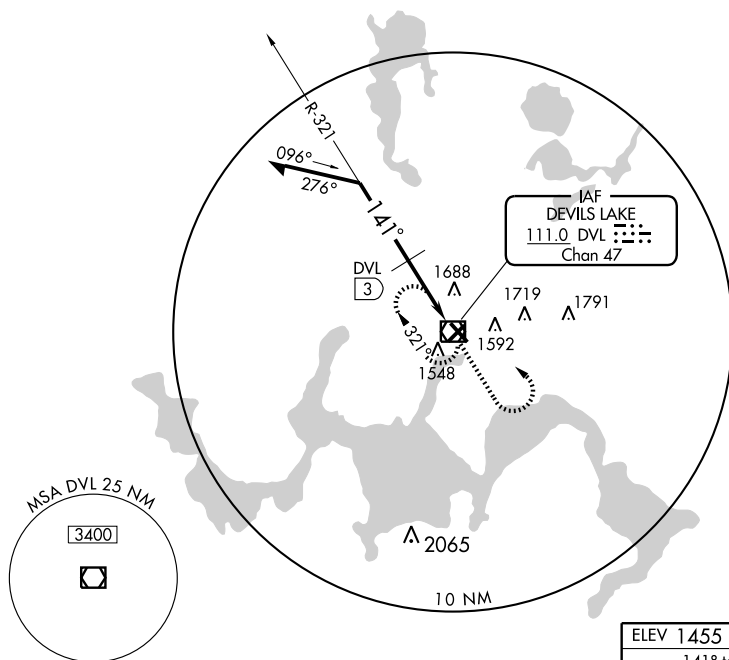


HIRL Rwy 13-31
REIL Rwy 13
REIL Rwys 3 and 21
MIRL Rwy 3-21

VOR RWY 13
DEVILS LAKE RGNL(DVL)

MISSED APPROACH: Climb to 3000 then left turn direct DVL VOR/DME and hold.

UNICOM
122.8 (CTAF) **L**



Remain
within 10 NM

VOR/DME

within 1

7

7.4.

141°
2000

Figure 1 shows a schematic diagram of the experimental setup. A laser beam is incident on a sample, and the reflected light is collected by a lens and focused onto a detector. The distance between the sample and the lens is 2.7 nm, and the distance between the lens and the detector is 0.2 m.

3000
↑

DVL


ELEV 1455

141°

VOR/D

 Δ Δ

1500. 5.1.

TDZE
1.455

1455

R

4

1000

④

2

30

1000

1000

1000

1000

HIRL Rwy 13-3

REIL Rwy 13

REIL Rwy 3 a

MIRL Rwy 3-2

NC-1. 14 JAN 2010 to 11 FEB 2010

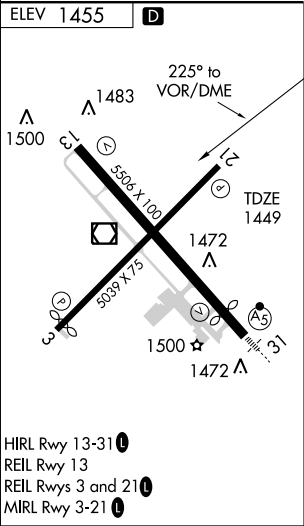
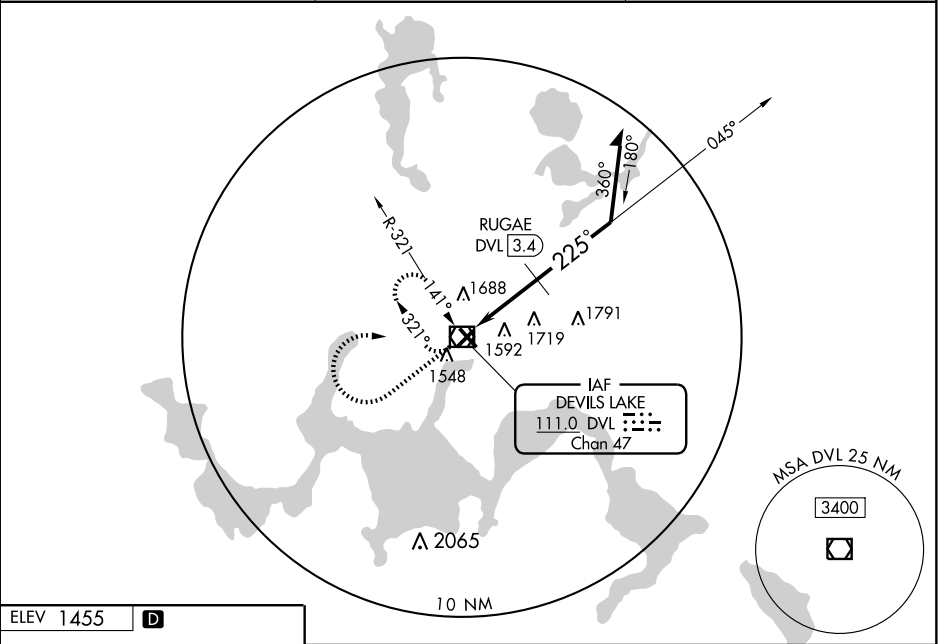
VOR/DME DVL	APP CRS	Rwy Idg	5039
111.0	225°	TDZE	1449
Chan 47		Apt Elev	1455

VOR RWY 21
DEVILS LAKE RGNL (DVL)

When local altimeter setting not received, use Jamestown altimeter setting and increase all MDA 180 feet, increase S-21 and Circling visibility Cat. A ¼ mile, Cat. C and D ½ mile, increase RUGAE FIX MINIMUMS S-21 and Circling visibility Cat. B to 1¼, Cat. C to 2¼ and Cat. D to 2½. VDP NA when using Jamestown altimeter setting.

MISSED APPROACH: Climb to 3000 then climbing right turn to 3500 direct DVL VOR/DME and hold.

AWOS-3 125.875	GRAND FORKS RADIO 122.3	UNICOM 122.8 (CTAF) 0
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3000	3500	DVL	VOR/DME	Remain within 10 NM
		111.0		
*2380 when using Jamestown altimeter setting.				
CATEGORY	A	B	C	D
S-21	2200-1 751 (800-1)	2200-1¼ 751 (800-1¼)	2200-2¼ 751 (800-2¼)	2200-2½ 751 (800-2½)
CIRCLING	2200-1 745 (800-1)	2200-1¼ 745 (800-1¼)	2200-2¼ 745 (800-2¼)	2200-2½ 745 (800-2½)
RUGAE FIX MINIMUMS				
S-21	2020-1	571 (600-1)	2020-1½ 571 (600-1½)	2020-1¾ 571 (600-1¾)
CIRCLING	2020-1	565 (600-1)	2020-1½ 565 (600-1½)	2080-2 625 (700-2)

VOR RWY 31
DEVILS LAKE RGNL(DVL)

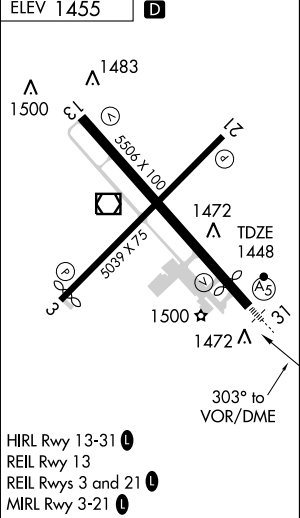
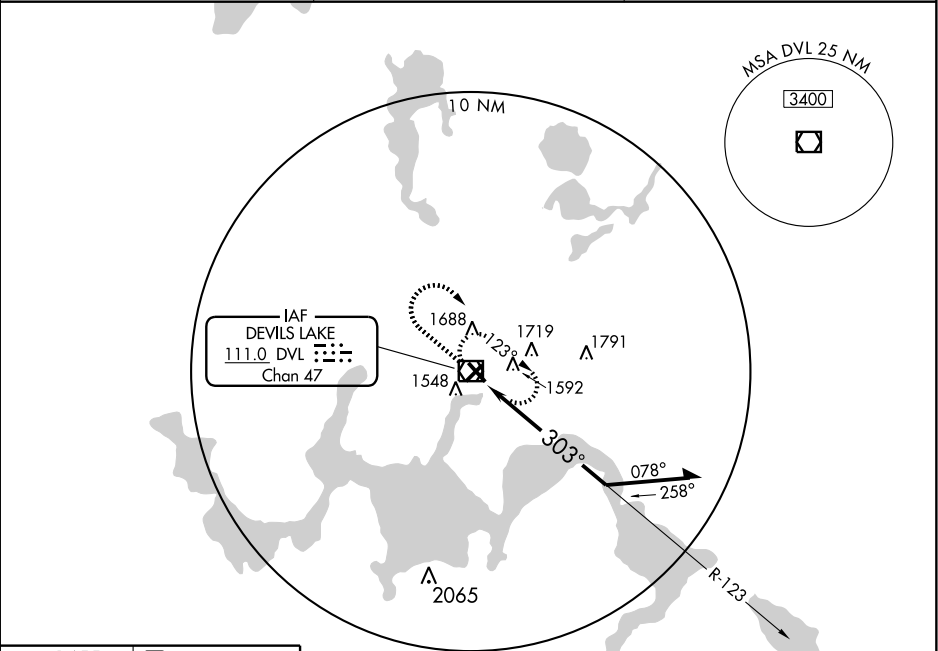
VOR/DME DVL	APP CRS	Rwy Idg	4866
111.0	303°	TDZE	1448
Chan 47		Apt Elev	1455

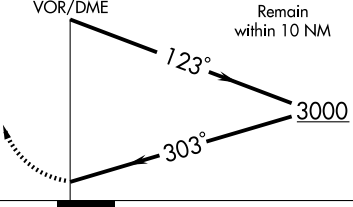
S-31 Cats A and B visibility increased ¼ mile for inoperative MALS.

MALS

MISSED APPROACH: Climb to 3000 then right turn direct DVL VOR/DME and hold.

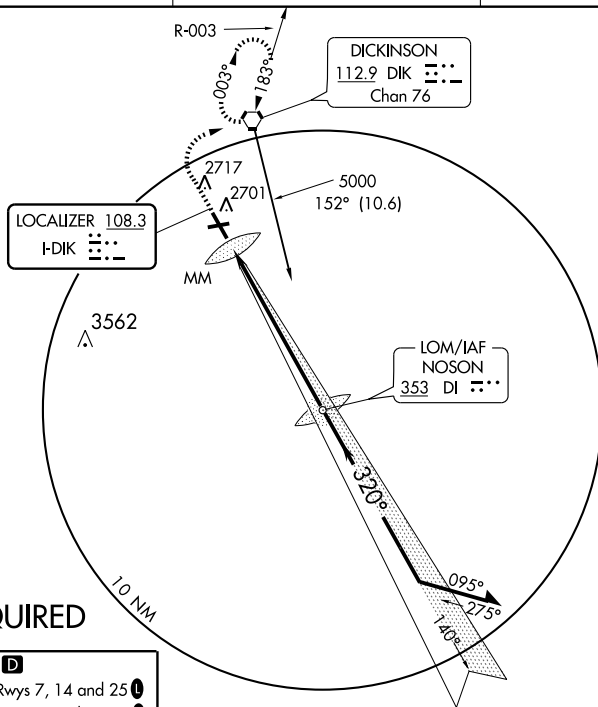
AWOS-3 125.875	GRAND FORKS RADIO 122.3	UNICOM 122.8 (CTAF)
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3000			DVL  111.0					
CATEGORY	A		B		C		D	
S-31	1920-¾ 472 (500-¾)						1920-1 472 (500-1)	
CIRCLING	2000-1 545 (600-1)				2000-1½ 545 (600-1½)		2080-2 625 (700-2)	

MISSED APPROACH: Climb to 5000 then right turn direct DIK VORTAC and hold.

UNICOM
123.0 (CTAF) **L**



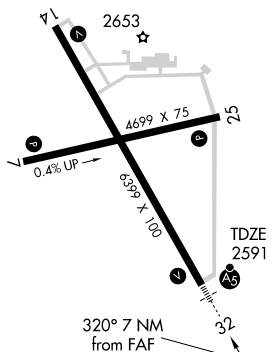
MSA DI 25 NM

4600

ADF REQUIRED

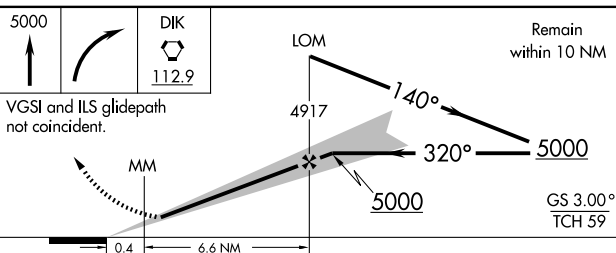
ELEV 2592

D

REIL Rwys 7, 14 and 25 **L**MIRL Rwy 7-25 and 14-32 **L**

FAF to MAP 7 NM

Knots	60	90	120	150	180
Min:Sec	7:00	4:40	3:30	2:48	2:20



CATEGORY	A	B	C	D
S-ILS 32	2791-½ 200 (200-½)			
S-LOC 32	3080-½ 489 (500-½)		3080-¾ 489 (500-¾)	3080-1 489 (500-1)
CIRCLING	3080-1 488 (500-1)		3080-1½ 488 (500-1½)	3160-2 568 (600-2)

WAAS CH 56211 W14A	APP CRS 140°	Rwy Idg TDZE Apt Elev	6399 2589 2592
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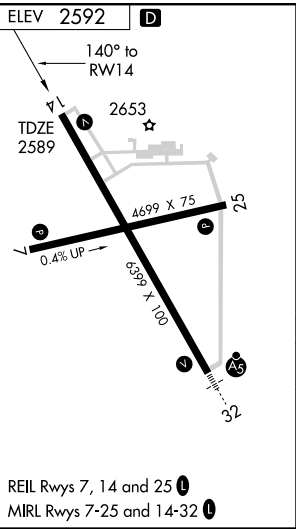
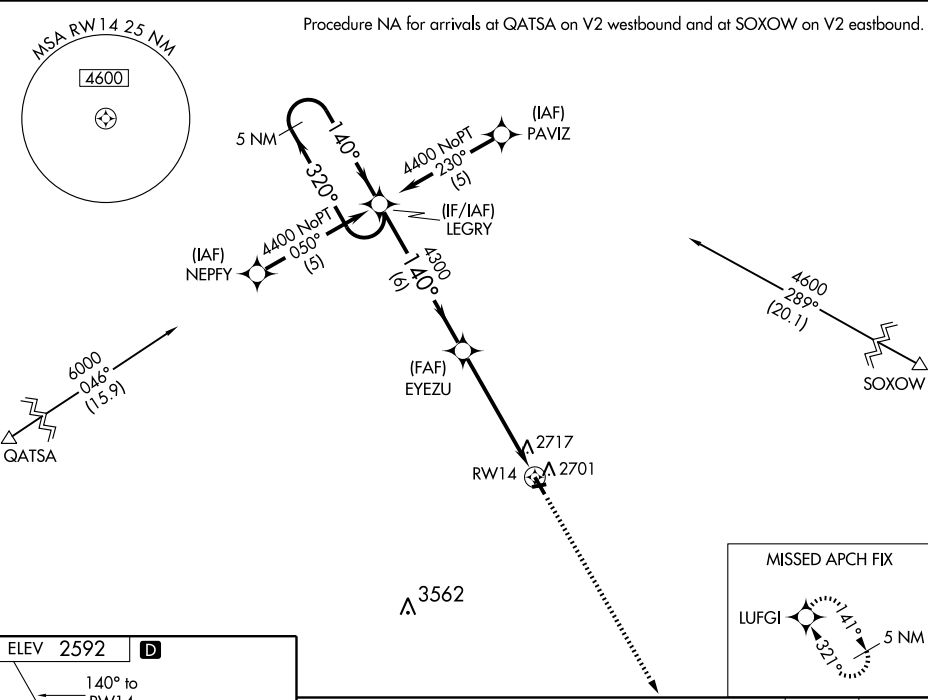
RNAV (GPS) RWY 14

DICKINSON-THEODORE ROOSEVELT RGNL (DIK)

⚠ DME/DME RNP-0.3 NA. Baro-VNAV NA below -20°C (-4°F).
⚠ VDP and Baro/VNAV NA when using Bowman Muni altimeter setting.
If local altimeter not received, use Bowman Muni altimeter setting and increase all DAs/MDAs 280 feet.

MISSED APPROACH: Climb to 5000 direct LUFGI and hold.

ASOS 118.375	MINNEAPOLIS CENTER 124.25 380.3	UNICOM 123.0 (CTAF) 0
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5 NM

Holding Pattern

LEGRY

EYEZU

5000

↑

LUFGI

✱

4400

← 320°

140° →

GS 3.00°

TCH 40

4300

140°

* 1.2 NM to RW14

RW14

* LNAV only

6 NM

4 NM

1.2

CATEGORY	A	B	C	D
LPV DA	2840-1 251 (300-1)			
LNAV/VNAV DA	3060-1¾ 471 (500-1¾)			
LNAV MDA	3020-1	431 (500-1)	3020-1¾ 431 (500-1¾)	3020-1½ 431 (500-1½)
CIRCLING	3080-1¾ 488 (500-1¾)			3160-2 568 (600-2)

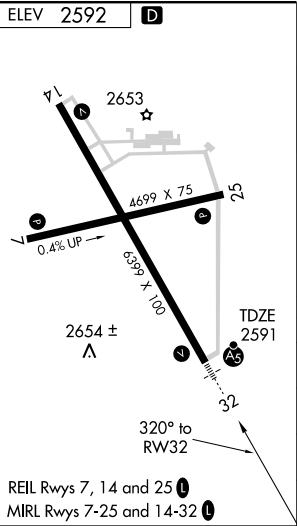
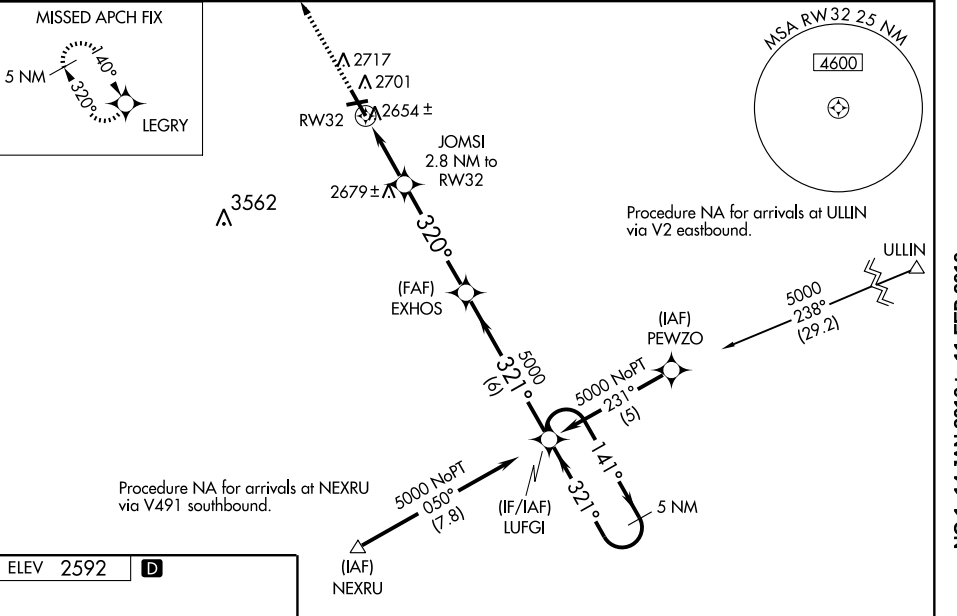
REIL Rwy 7, 14 and 25 **0**
MIRL Rwy 7-25 and 14-32 **0**

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -20°C (-4°F) or above 44°C (111°F). DME/DME RNP- 0.3 NA. When local altimeter setting not received, use Bowman altimeter setting and increase all DA 266 feet, all MDA 280 feet, increase LPV all Cats visibility ½ mile, LNAV/VNAV Cats A/B/C visibility 1 mile, Cat D visibility ¾ mile, LNAV Cats C/D visibility ¾ mile, Circling Cat B visibility ¼ mile, Cats C/D visibility ¾ mile. For inoperative MALS when using Bowman altimeter setting, increase LPV all Cats visibility to 1 ½, LNAV/VNAV all Cats visibility to 2, LNAV Cat C visibility to 2 and Cat D visibility to 2 ¼. For inoperative MALS, increase LNAV/VNAV Cat D visibility to 1 and LNAV Cat D visibility to 1 ¼. VDP and Baro-VNAV NA when using Bowman altimeter setting.

MALS

MISSED APPROACH
Climb to 5000 direct
LEGRY and hold.

ASOS 118.375	MINNEAPOLIS CENTER 124.25 380.3	UNICOM 123.0 (CTAF) 0
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5000 LEGRY					VGSI and RNAV glidepath not coincident.					5 NM Holding Pattern				
*LNAV only					JOMSI 2.8 NM to RW32					1.2 NM to RW32				
					320° 3540*					321° 5000				
1.2 NM 1.6 NM 4.4 NM 6 NM					EXHOS					LUFGE				
CATEGORY	A		B		C		D							
LPV DA	2791-½		200 (200-½)											
LNAV/ VNAV DA	2924-½		333 (400-½)										2924-¾ 333 (400-¾)	
LNAV MDA	3000-½		409 (500-½)		3000-¾ 409 (500-¾)		3160-2						3160-2 568 (600-2)	
CIRCLING	3080-1		488 (500-1)		3080-1½ 488 (500-1½)									

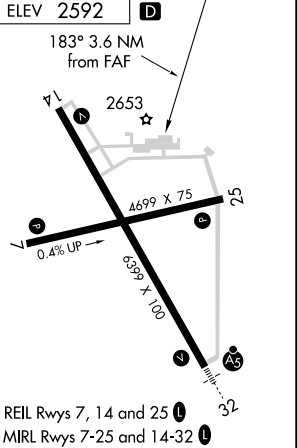
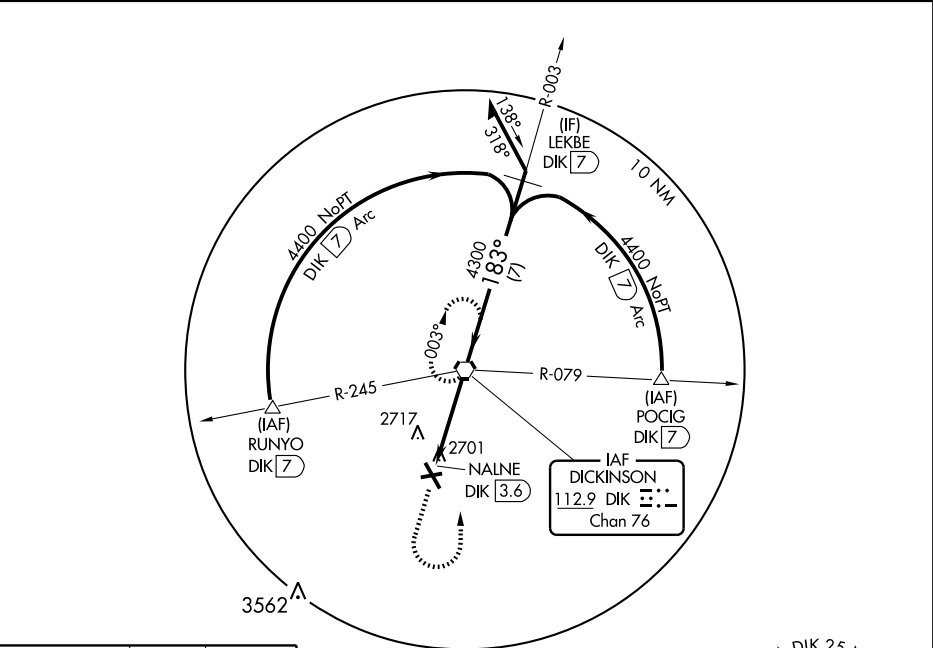
VORTAC DIK	APP CRS	Rwy Idg	N/A
112.9	183°	TDZE	N/A
Chan 76		Apt Elev	2592

DICKINSON-THEODORE ROOSEVELT RGNL (DIK)

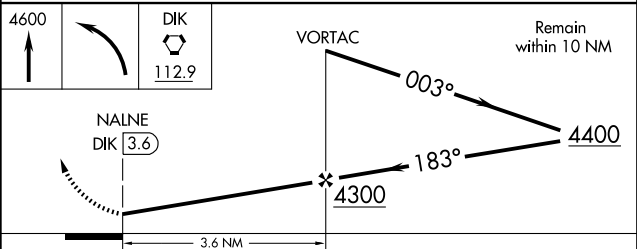
⚠ If local altimeter setting not received, use Bowman Muni altimeter setting and increase all MDAs 280 feet.

MISSED APPROACH: Climb to 4600 then turn left direct DIK VORTAC and hold.

ASOS 118.375	MINNEAPOLIS CENTER 124.25 380.3	UNICOM 123.0 (CTAF) 0
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FAF to MAP 3.6 NM					
Knots	60	90	120	150	180
Min:Sec	3:36	2:24	1:48	1:26	1:12



CATEGORY	A	B	C	D
CIRCLING	3080-1	488 (500-1)	3080-1½ 488 (500-1½)	3160-2 568 (600-2)

AIRPORT DIAGRAM

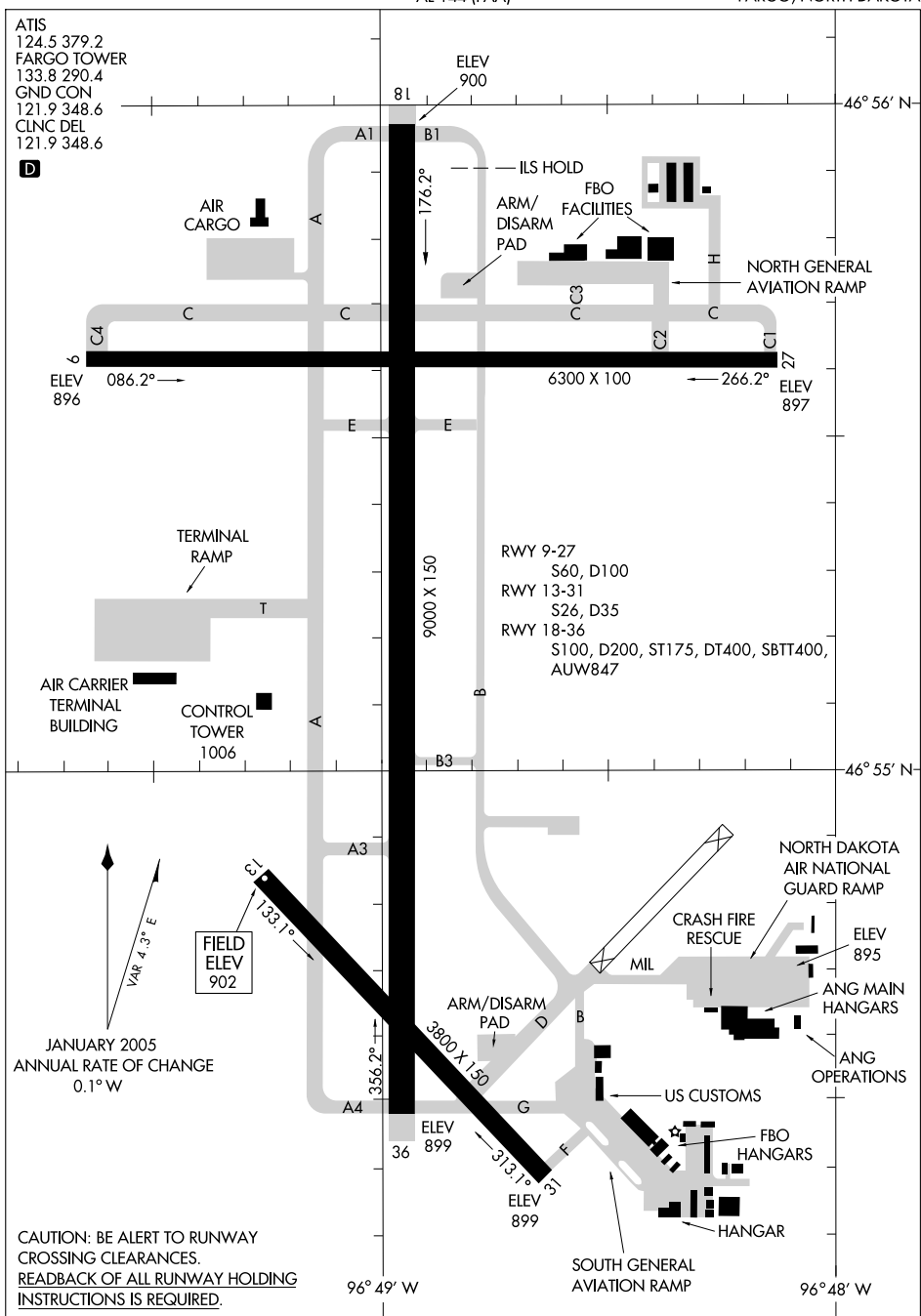
AL-144 (FAA)

FARGO/HECTOR INTL (FAR)

FARGO, NORTH DAKOTA

ATIS
124.5 379.2
FARGO TOWER
133.8 290.4
GND CON
121.9 348.6
CLNC DEL
121.9 348.6

D



NC-1, 14 JAN 2010 to 11 FEB 2010

VORTAC FAR 116.2 Chan 109	APP CRS 178°	Rwy Idg TDZE Apt Elev 900 900 902
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JAL-144 [USAF]

FARGO/HECTOR INTL (FAR)

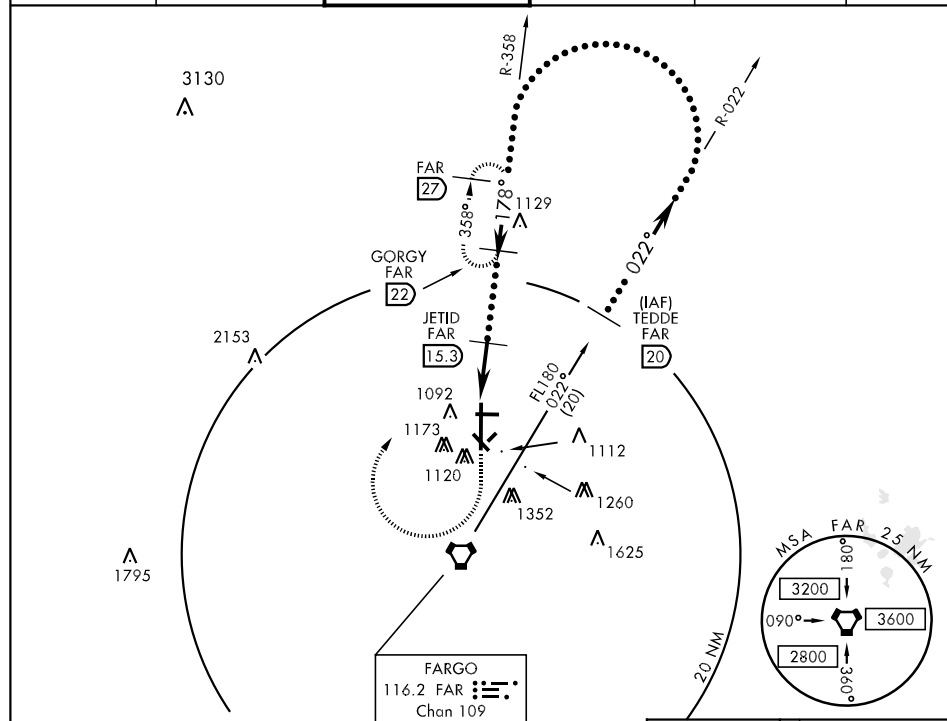
▼ * When ALS inop, increase CAT C RVR to 50 and vis to 1 mile, CAT DE RVR to 60 and vis to 1¼ mile.

MALSR

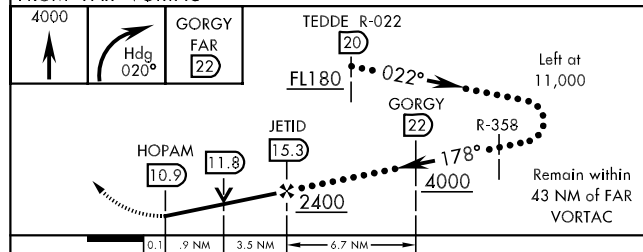


MISSED APPROACH: Climb to 4000 then right turn via heading 020° to intercept the FAR R-358 to GORGY 22 DME and hold.

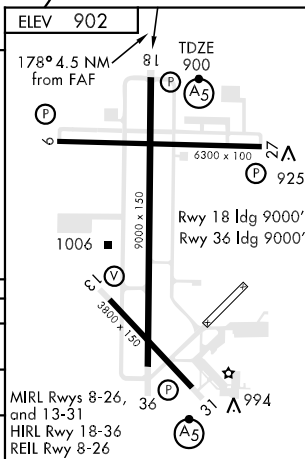
ATIS 124.5 379.2	FARGO APP CON 120.4 377.15	FARGO TOWER 133.8 290.4	GND CON 121.9 348.6	CLNC DEL 121.9 348.6	ASR
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EMERG SAFE ALT 100 NM 4200
FROM "FAR" VORTAC



CATEGORY	C	D	E
S-TAC 18	1260/24 360 (400-½)	1260/50 360	(400-1)
CIRCLING	1380-1½ 478 (500-1½)	1500-2 598 (600-2)	1560-2¼ 658 (700-2¼)
S-ASR 18 *	1260/24 360 (400-½)	1260/50 360	(400-1)



FARGO, NORTH DAKOTA

46° 55' N-96° 49' W

FARGO/HECTOR INTL (FAR)

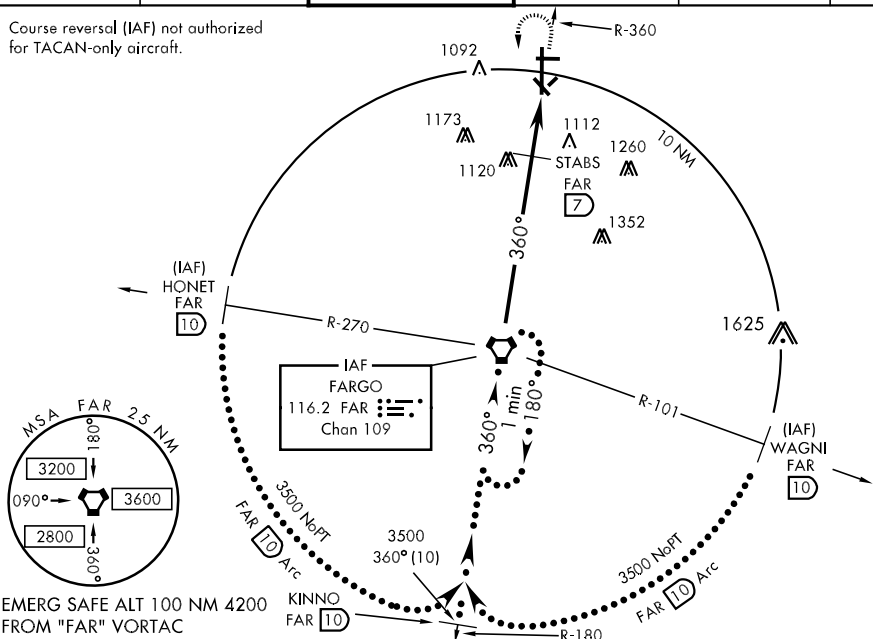
Amdt 7 02270

VORTAC FAR 116.2 Chan 109	APP CRS 360°	Rwy Idg TDZE Apt Elev 9000 899 902	JAL-144 [USAF]	FARGO/HECTOR INTL (FAR)
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▼ * When ALS inop, increase CAT E vis to 2½ miles. ** When ALS inop, increase CAT E vis to 1¾ miles.	MALSR	MISSED APPROACH: Climbing left turn to 3500 direct FAR VORTAC and hold. (TACAN aircraft climbing left turn to 3500 direct FAR VORTAC then via FAR R-180 to KINNO/FAR 10 DME and hold south, right turns, 360° inbound.)
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ATIS 124.5 379.2	FARGO APP CON 120.4 377.15	FARGO TOWER 133.8 290.4	GND CON 121.9 348.6	CLNC DEL 121.9 348.6	ASR
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Course reversal (IAF) not authorized for TACAN-only aircraft.



EMERG SAFE ALT 100 NM 4200
FROM "FAR" VORTAC

One minute holding pattern VORTAC 3500 180° 360° 360° STABS FAR 7 FAR 8.1 FAR 9.4 1600 7 NM 1.1 NM 1.3 NM			3500 FAR	ELEV 902 Rwy 18 Idg 9000' Rwy 36 Idg 9000'
CATEGORY	C	D	E	
S-36 *	1600-1½ 701 (700-1½)	1600-1¾ 701 (700-1¾)	1600-2 701 (700-2)	
CIRCLING	1600-2 698 (700-2)	1600-2¼ 698 (700-2¼)	1600-2½ 698 (700-2½)	
S-ASR 36	1420/50 521 (600-1)	1420/60	521 (600-1¼)	
STABS FIX MINIMUMS				
S-36 **	1380/40 481 (500-¾)	1380/50 481 (500-1)	1380/60 481 (500-1¼)	
CIRCLING	1380-1½ 478 (500-1½)	1500-2 598 (600-2)	1560-2¼ 658 (700-2¼)	
				81 6300 x 100 925 1006 3000 x 150 TDZE 899 MIRL Rwy 8-26, and 13-31 HIRL Rwy 18-36 REIL Rwy 8-26 994 360° from FAF FAF to MAP 9.4 NM Knots 120 140 160 180 200 Min:Sec 4:42 4:02 3:31 3:08 2:49

⚠

For inoperative MALS, increase S-ILS 18 Cat E visibility to RVR 4000, and S-LOC 18 Cat E visibility to RVR 5000.

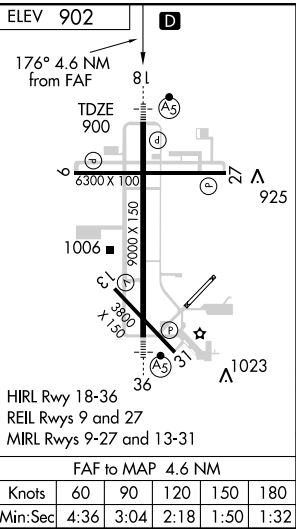
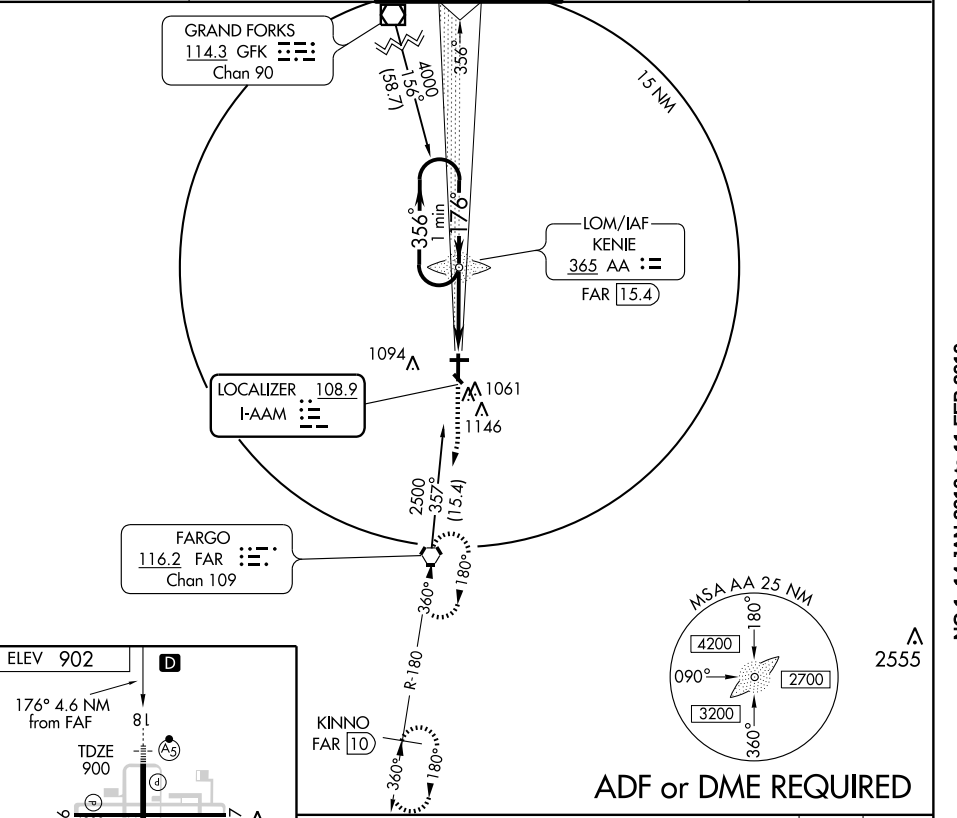
⚠

* Visibility CAT A/B/C/D RVR 1800 authorized with the use of FD or AP or HUD to DA.

MALS

MISSED APPROACH: Climb to 2500 direct FAR VORTAC and hold. (TACAN aircraft climb to 3500 direct FAR VORTAC, then via FAR R-180 to KINNO/FAR 10 DME and hold S, RT, 360° inbound.)

ATIS 124.5 379.2	FARGO APP CON★ 120.4 377.15	FARGO TOWER 133.8 290.4	GND CON 121.9 348.6	CLNC DEL 121.9 348.6
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One Minute Holding Pattern		KENIE LOM FAR 15.4		2500	FAR 116.2
2500 ← 356° → 176° 2432 2500 GS 3.00° TCH 51 VGSI and ILS glidepath not coincident.		4.6 NM 176°		FAR 10.9	
CATEGORY	A	B	C	D	E
S-ILS 18	*1100/24 200 (200-½)				
S-LOC 18	1260/24 360 (400-½)			1260/40 360 (400-¾)	
CIRCLING	1380-1 478 (500-1)		1380-1½ 478 (500-1½)	1500-2 598 (600-2)	1560-2½ 658 (700-2½)

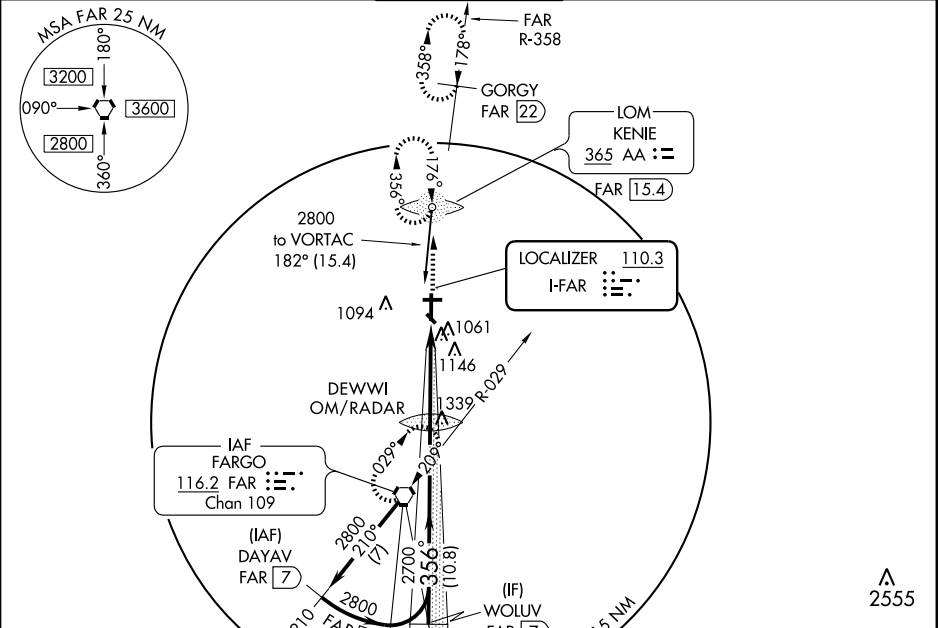
⚠ For inoperative MALS/R, increase S-ILS 36 Cat E visibility to RVR 4000, and S-LOC 36 Cat E visibility to 1½.

⚠ # Visibility CAT A/B/C/D RVR 1800 authorized with the use of FD or AP or HUD to DA. ADF or DME required.

MALSR

MISSED APPROACH: Climb via FAR R-357 to 2800 direct KENIE LOM and hold. (DME aircraft climb to 4000 via FAR R-358 to GORGY/FAR 22 DME and hold N, RT, 178° inbound.)

ATIS 124.5 379.2	FARGO APP CON★ 120.4 377.15	FARGO TOWER 133.8 290.4	GND CON 121.9 348.6	CLNC DEL 121.9 348.6
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DME REQUIRED

WOLUV FAR 7	DEWWI OM/RADAR	2800 FAR R-357	AA 365		
Procedure Turn NA	2706	VGSI and ILS glidepath not coincident			
2800	2800	*2700			
GS 3.00° TCH 55	10.8 NM	5.4 NM			
CATEGORY	A	B	C	D	E
S-ILS 36	# 1099/24 200 (200-½)				
S-LOC 36	1340/24 441 (500-½)	1340/40 441 (500-¾)	1340/50 441 (500-1)		
CIRCLING	1380-1 478 (500-1)	1380-1½ 478 (500-1½)	1500-2 598 (600-2)	1560-2¼ 658 (700-2¼)	

ELEV 902

HIRL Rwy 18-36
REIL Rws 9 and 27
MIRL Rws 9-27 and 13-31

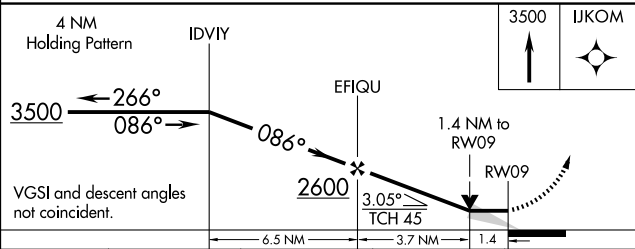
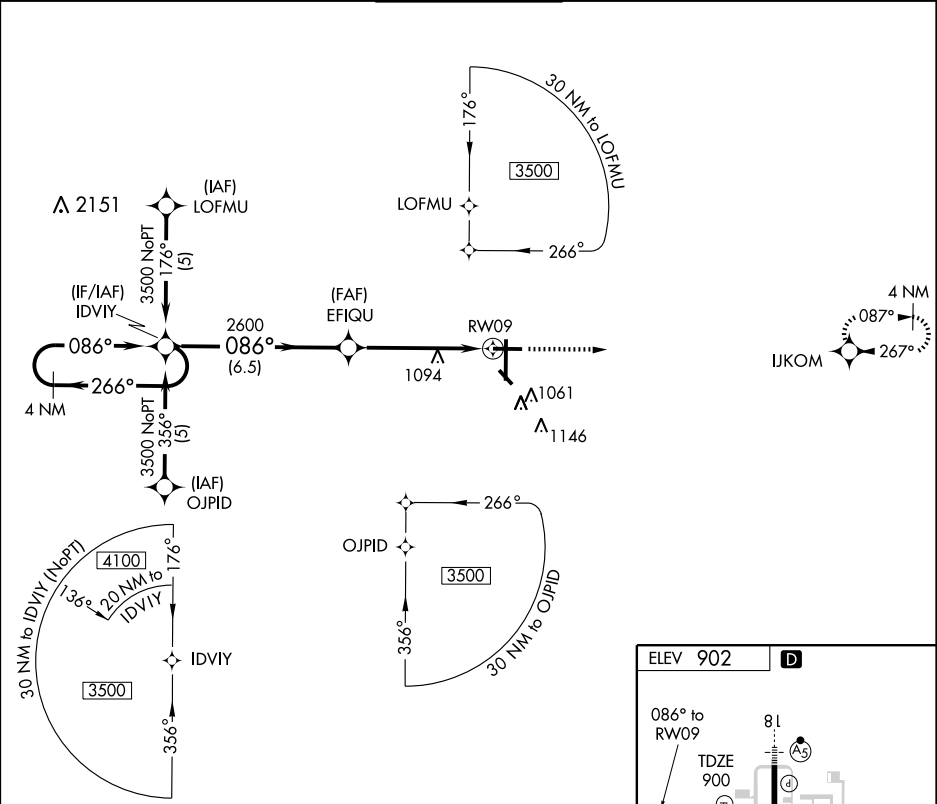
Knots	60	90	120	150	180
Min:Sec	5:24	3:36	2:42	2:10	1:48

FARGO, NORTH DAKOTA	
APP CRS 086°	Rwy Idg 6300
	TDZE 900
	Apt Elev 902

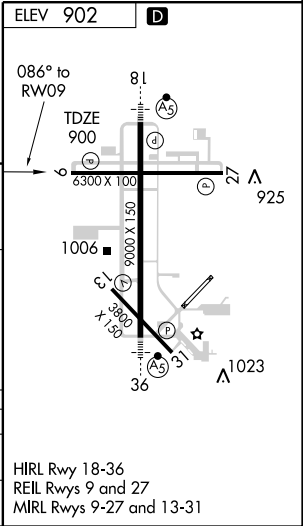
AL-144 (FAA)

RNAV (GPS) RWY 9
FARGO/HECTOR INTL (FAR)

DME/DME RNP- 0.3 NA.		MISSED APPROACH: Climb to 3500 direct IJKOM and hold.	
ATIS 124.5 379.2	FARGO APP CON★ 120.4 377.15	FARGO TOWER 133.8 290.4	GND CON 121.9 348.6
		CLNC DEL 121.9 348.6	

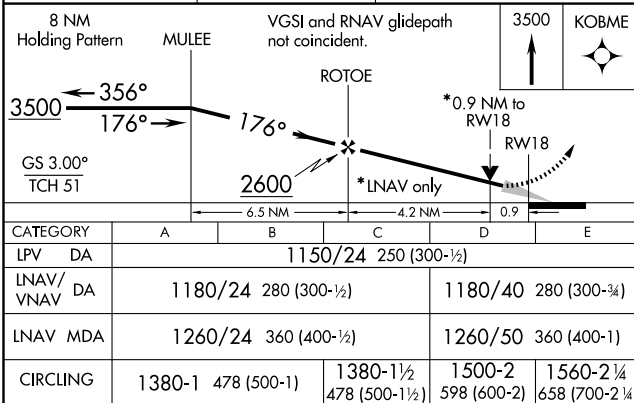
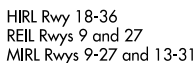


CATEGORY	A	B	C	D
LNAV MDA	1360-1 460 (500-1)	1360-1½ 460 (500-1½)	1360-1½ 460 (500-1½)	1360-1½ 460 (500-1½)
CIRCLING	1380-1 478 (500-1)	1380-1½ 478 (500-1½)	1380-1½ 478 (500-1½)	1380-1½ 478 (500-1½)



MISSED APPROACH: Climb to 3500
direct KOBME and hold.

CLNC DEL
121.9 348.6



APP CRS	Rwy Idg	6300
267°	TDZE	898
	Apt Elev	902

RNAV (GPS) RWY 27

FARGO/HECTOR INTL (FAR)



DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 3500 direct IDVY and hold.

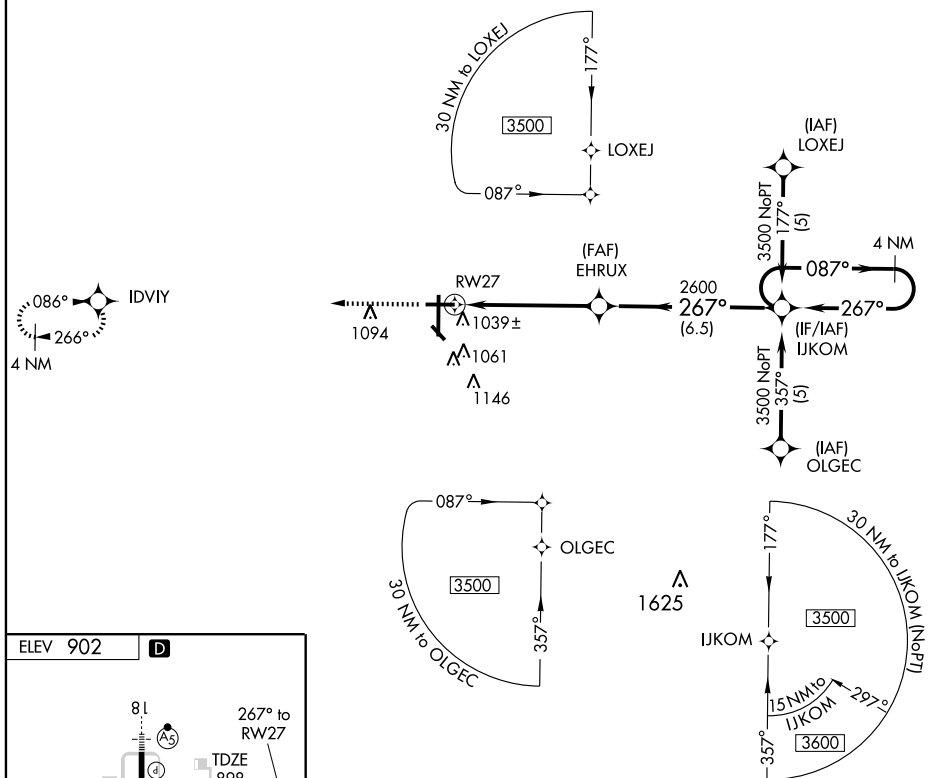
ATIS
124.5 379.2

FARGO APP CON★
120.4 377.15

FARGO TOWER
133.8 290.4

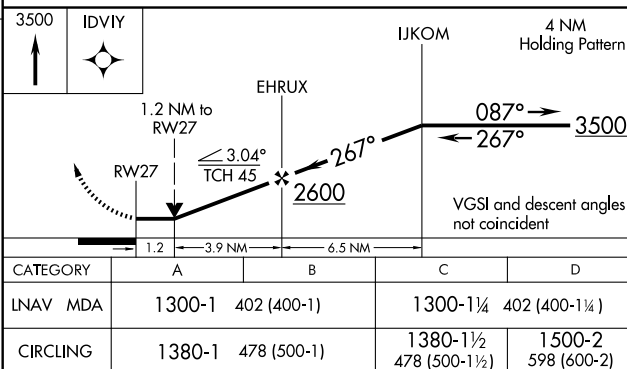
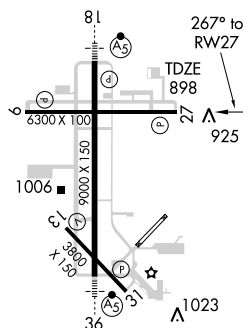
GND CON
121.9 348.6

CLNC DEL
121.9 348.6



ELEV 902

D



NC-1. 14 JAN 2010 to 11 FEB 2010

HIRL Rwy 18-36
REIL Rwy 9 and 27
MIRL Rwy 9-27 and 13-31

  	DME/DME RNP -0.3 NA. Baro-VNAV NA below -16°C (4°F). For inoperative MALSR, increase LPV Cat E visibility to RVR 4000, and increase LNAV/VNAV and LNAV Cat E visibility to 1¾ mile.	MALSR 	MISSED APPROACH: Climb to 3500 direct MULEE and hold.
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[illegible]

8 NM Holding Pattern

KOBME

VGSI and RNAV glidepath not coincident.

HUBET

3500

176°

356°

356°

*1.4 NM to RW36

RW36

2600

*LNAV only

6.5 NM

3.7 NM

1.4 NM

CATEGORY	A	B	C	D	E
LPV DA	1150/24 251 (300-½)				
LNAV/VNAV DA	1360/50 461 (500-1)				1360/60 461 (500-¼)
LNAV MDA	1420/24 521 (600-½)	1420/50 521 (600-1)	1420/60 521 (600-1¼)		
CIRCLING	1420-1½ 518 (600-½)		1500-2 598 (600-2)	1560-2¼ 658 (700-2¼)	

VORTAC FAR <u>116.2</u> Chan 109	APP CRS 179°	Rwy Idg 9000 TDZE 900 Apt Elev 902
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VOR/DME or TACAN RWY 18

FARGO/HECTOR INTL (FAR)

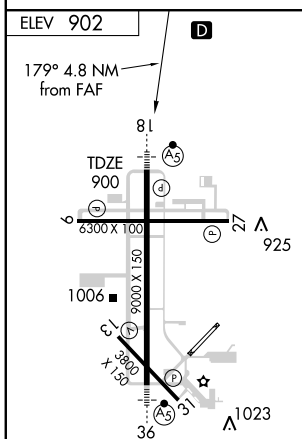
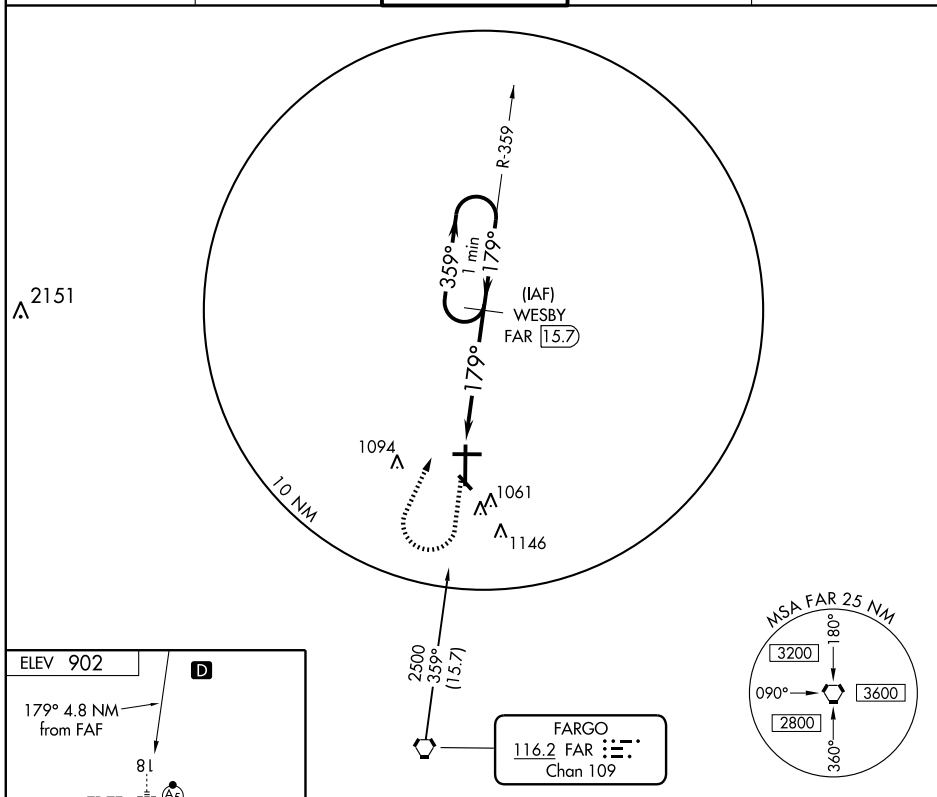


For inoperative MALSR, increase Cat D visibility to RVR 6000 and Cat E to 1½.



MISSED APPROACH: Climb to 3500 then right turn via heading 016° and FAR R-359 to WESBY/15.7 DME and hold.

ATIS 124.5 379.2	FARGO APP CON★ 120.4 377.15	FARGO TOWER 133.8 290.4	GND CON 121.9 348.6	CLNC DEL 121.9 348.6
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3500 ↑	016°	FAR R-359 116.2	WESBY FAR 15.7	WESBY FAR 15.7	One Minute Holding Pattern
CATEGORY	A	B	C	D	E
S-18	1320/24	420 (500-½)	1320/40 420 (500-¾)	1320/50	420 (500-1)
CIRCLING	1380-1	478 (500-1)	1380-1 ½ 478 (500-1 ½)	1500-2 598 (600-2)	1560-2 ¼ 658 (700-2 ¼)

HIRL Rwy 18-36
REIL Rwy 9 and 27
MIRL Rwy 9-27 and 13-31

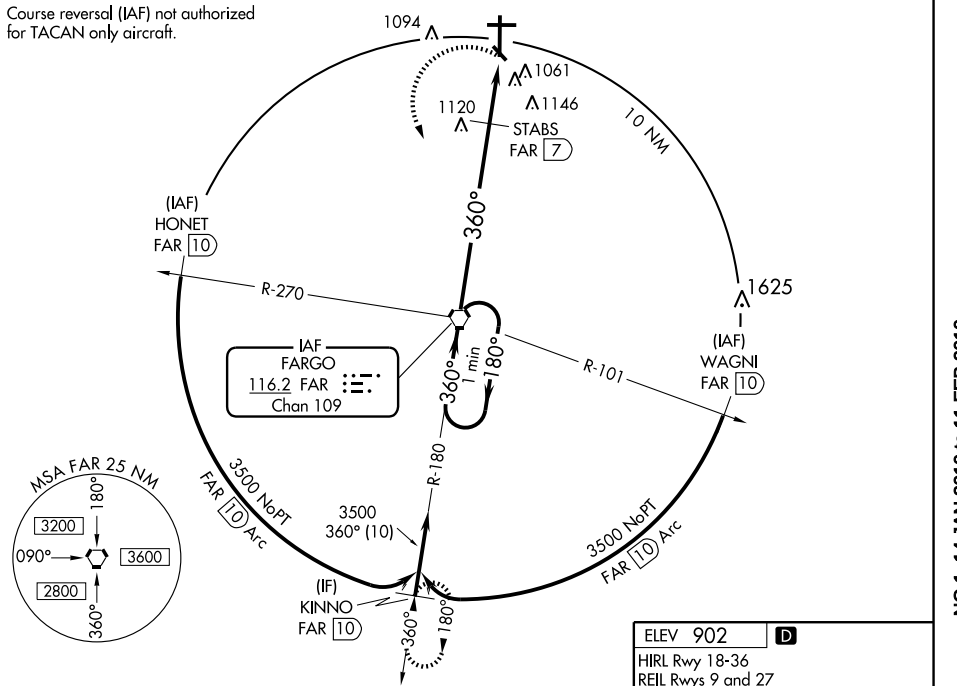
VORTAC FAR	APP CRS	Rwy Idg	9000
116.2	360°	TDZE	899
Chan 109		Apt Elev	902

VOR MINIMUMS: For inoperative MALSR, increase S-36 Cat E visibility to 2½ miles.
STABS FIX MINIMUMS: For inoperative MALSR, increase S-36 Cat E visibility to 1¾ mile.

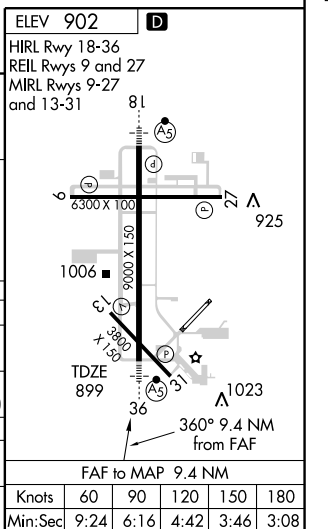
MALSR
 **MISSED APPROACH:** Climbing left turn to 3500 direct FAR VORTAC and hold. (TACAN aircraft climbing left turn to 3500 direct FAR VORTAC, then via FAR R-180 to KINNO/FAR 10 DME and hold South, right turns, 360° inbound.)

ATIS 124.5 379.2	FARGO APP CON* 120.4 377.15	FARGO TOWER 133.8 290.4	GND CON 121.9 348.6	CLNC DEL 121.9 348.6
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Course reversal (IAF) not authorized for TACAN only aircraft.



One Minute Holding Pattern		VORTAC		STABS FAR 7		FAR 8.1		FAR 9.4	
3500		180°		360°		1600		7 NM	
1600-24		701 (700-½)		1600-1½		1600-1¾		1600-2	
1600-1		698 (700-1)		1600-2		1600-2½		1600-2½	
1380-24		481 (500-½)		1380/40		1380/50		1380/60	
1380-1		478 (500-1)		1380-1½		1500-2		1560-2¼	
1380-1		478 (500-1½)		598 (600-2)		658 (700-2¼)		658 (700-2¼)	



RNAV (GPS) RWY 13

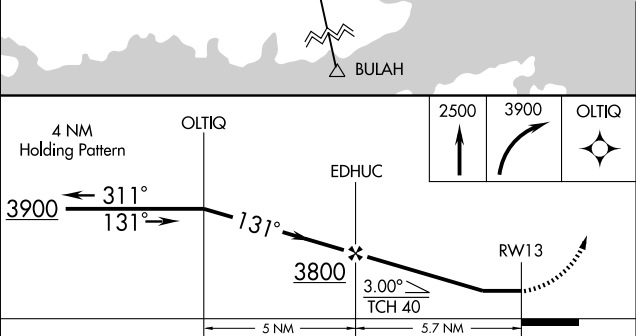
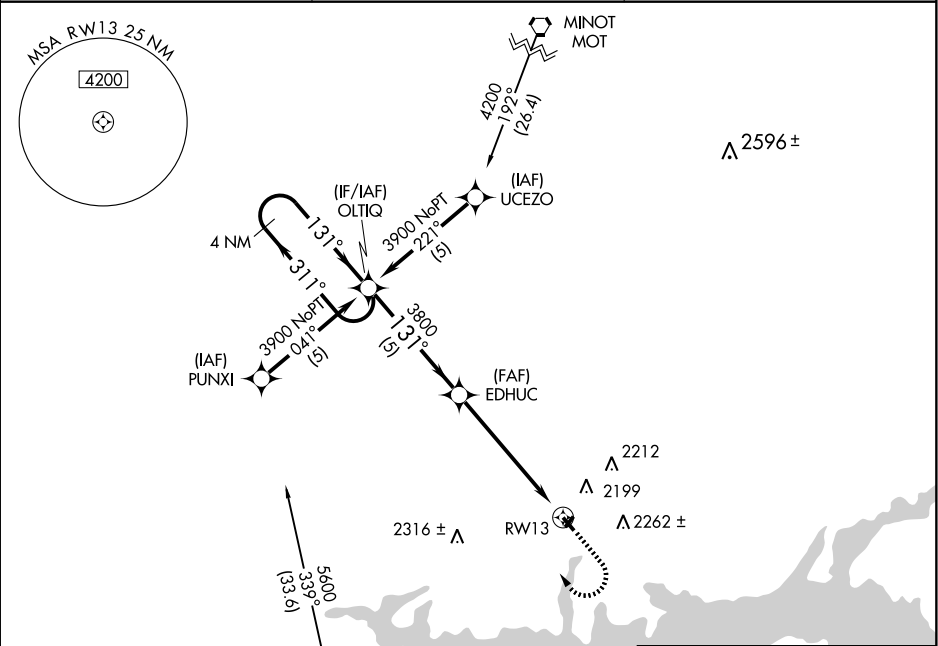
GARRISON MUNI (D05)

APP CRS	Rwy Idg	3700
131°	TDZE	1935
	Apt Elev	1935

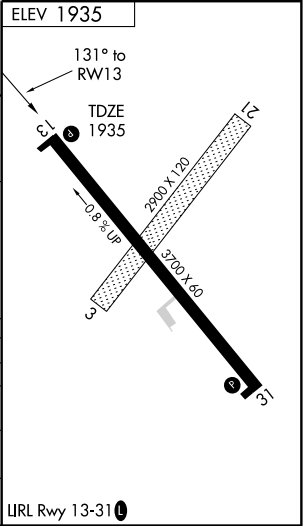
NA DME/DME RNP 0.3- NA.
Use Minot Intl altimeter setting.

MISSED APPROACH: Climb to 2500 then climbing right turn to 3900 direct OLTIQ WP and hold.

MINOT ASOS 118.725	MINNEAPOLIS CENTER 127.6 279.6	CTAF 122.9
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CATEGORY	A	B	C	D
GLS DA			NA	
LNAV/VNAV DA			NA	
LNAV MDA	2500-1	565 (600-1)		NA
CIRCLING	2680-1 745 (800-1)	2680-1¼ 745 (800-1¼)		NA



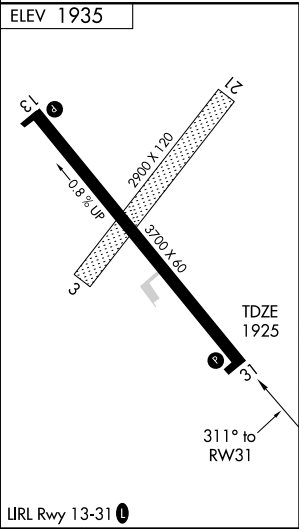
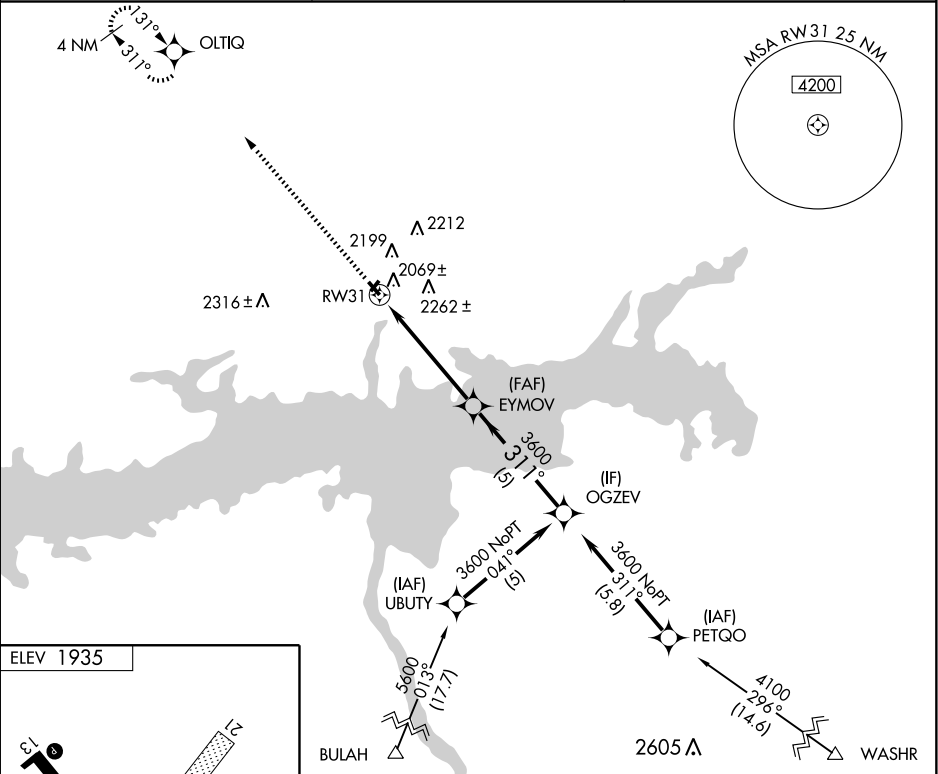
APP CRS	Rwy Idg	3700
311°	TDZE	1925
	Apt Elev	1935

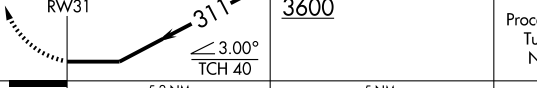
RNAV (GPS) RWY 31

GARRISON MUNI (D05)

NA	DME/DME RNP- 0.3 NA. Use Minot Inlt altimeter setting.	MISSED APPROACH: Climb to 3900 direct OLTIQ and hold.
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MINOT ASOS 118.725	MINNEAPOLIS CENTER 127.6 279.6	CTAF 122.9
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3900	OLTIQ	EYMOV	OGZEV	
				
				
CATEGORY	A	B	C	D
GLS DA	NA			
LNAV/ VNAV DA	NA			
LNAV MDA	2560-1 635 (700-1)		NA	
CIRCLING	2680-1 745 (800-1)	2680-1¼ 745 (800-1¼)	NA	

APP CRS
174°

Rwy Idg	3898
TDZE	821
Apt Elev	824

GPS RWY 17

GRAFTON/ HUTSON FIELD (GAF)



ANA

Use Grand Forks Intl altimeter setting.

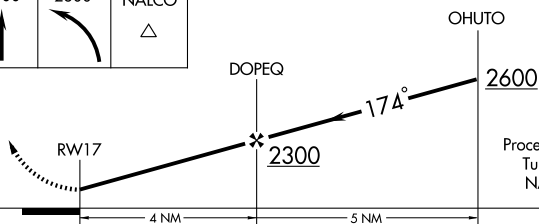
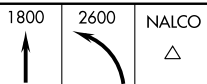
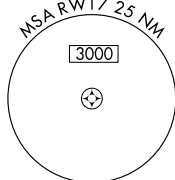
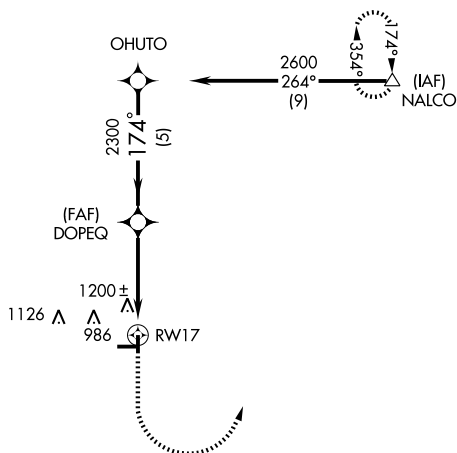
MISSED APPROACH: Climb to 1800, then climbing left turn to 2600 direct NALCO WP and hold.

AWOS-3
118.625

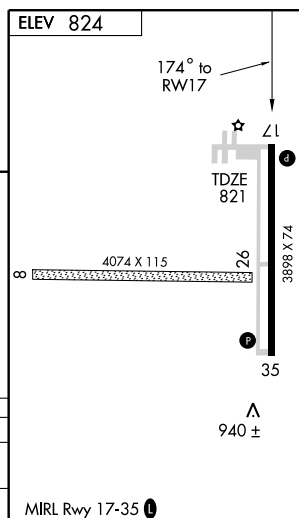
GRAND FORKS APP CON
118.1 318.1

UNICOM
122.8 (CTAF) **L**

A1393



CATEGORY	A	B	C	D
S-17	1520-1	699 (700-1)	1520-2 699 (700-2)	NA
CIRCLING	1580-1 756 (800-1)	1580-1¼ 756 (800-1¼)	1580-2¼ 756 (800-2¼)	NA



APP CRS
354°

Rwy Idg
TDZE
Apt Elev

3898
820
824

GPS RWY 35

GRAFTON/ HUTSON FIELD (GAF)

▽

NA

Use Grand Forks Intl altimeter setting.

MISSED APPROACH: Climb to 1800, then climbing right turn to 2600 direct NALCO WP and hold.

AWOS-3

118.625

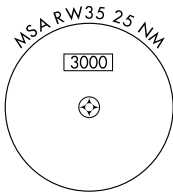
GRAND FORKS APP CON

118.1 318.1

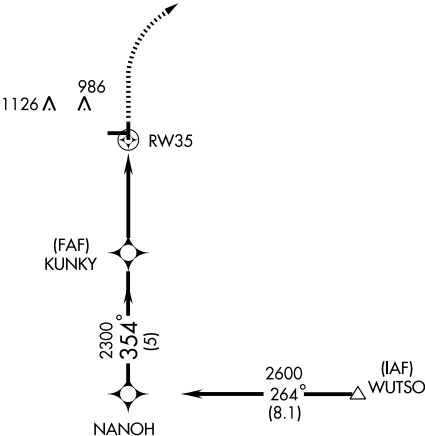
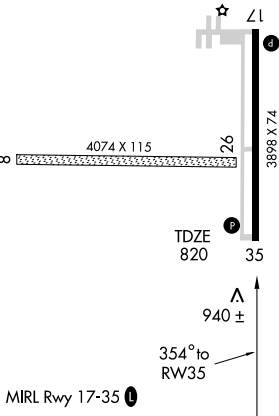
UNICOM

122.8 (CTAF) 0

Λ1393



ELEV 824



	NANO		KUNKY		RW35	
	2600		2300			
	Procedure Turn NA					
	5 NM		4 NM			
CATEGORY	A	B	C	D		
S-35	1260-1	440 (500-1)	1260-1 ¼ 440 (500-1 ¼)	NA		
CIRCLING	1580-1 756 (800-1)	1580-1 ¼ 756 (800-1 ¼)	1580-2 ¼ 756 (800-2 ¼)	NA		

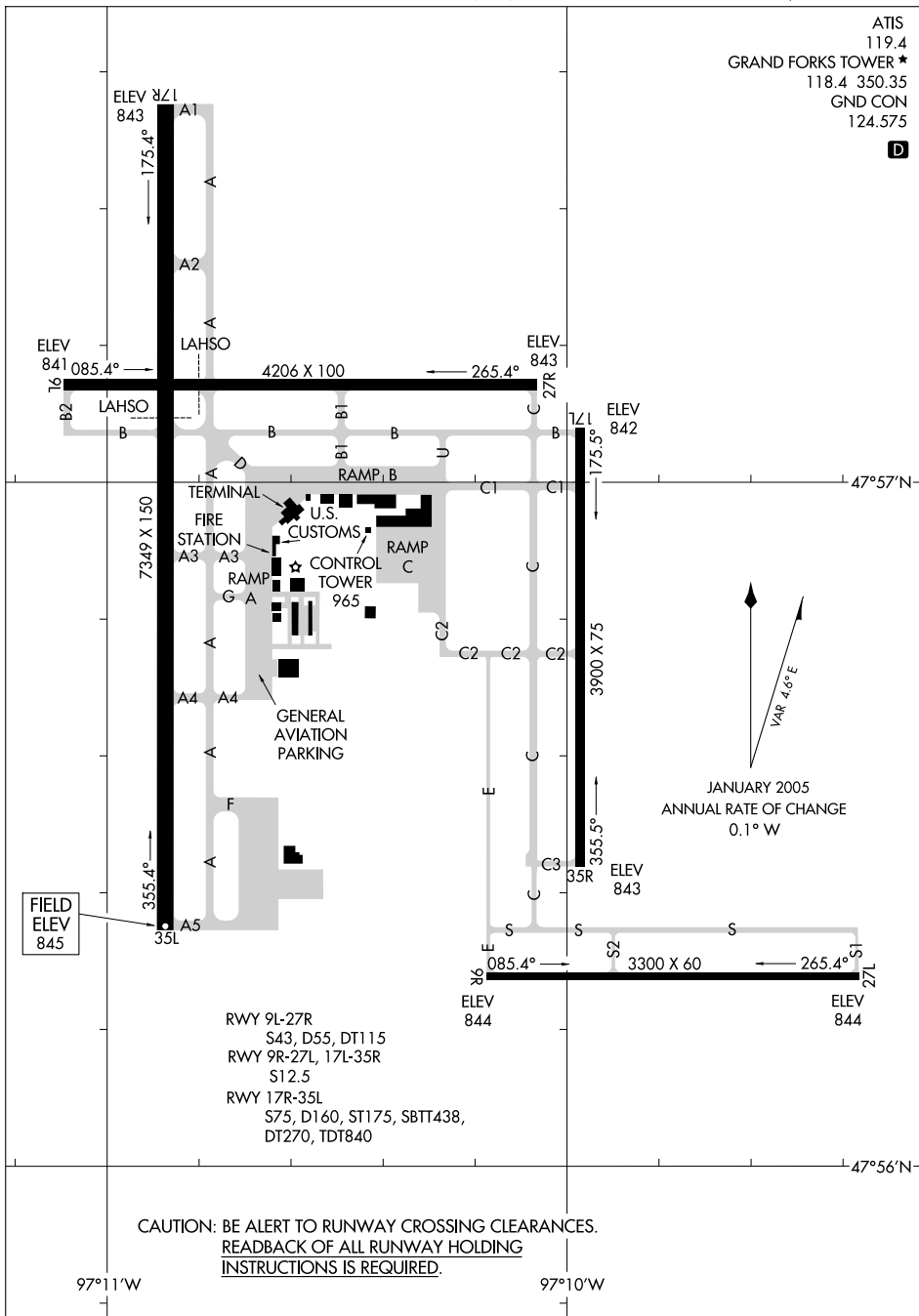
AIRPORT DIAGRAM

AL-5187 (FAA)

GRAND FORKS INTL (GFK)
GRAND FORKS, NORTH DAKOTA

ATIS
119.4
GRAND FORKS TOWER ★
118.4 350.35
GND CON
124.575

D



CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

NC-1, 14 JAN 2010 to 11 FEB 2010

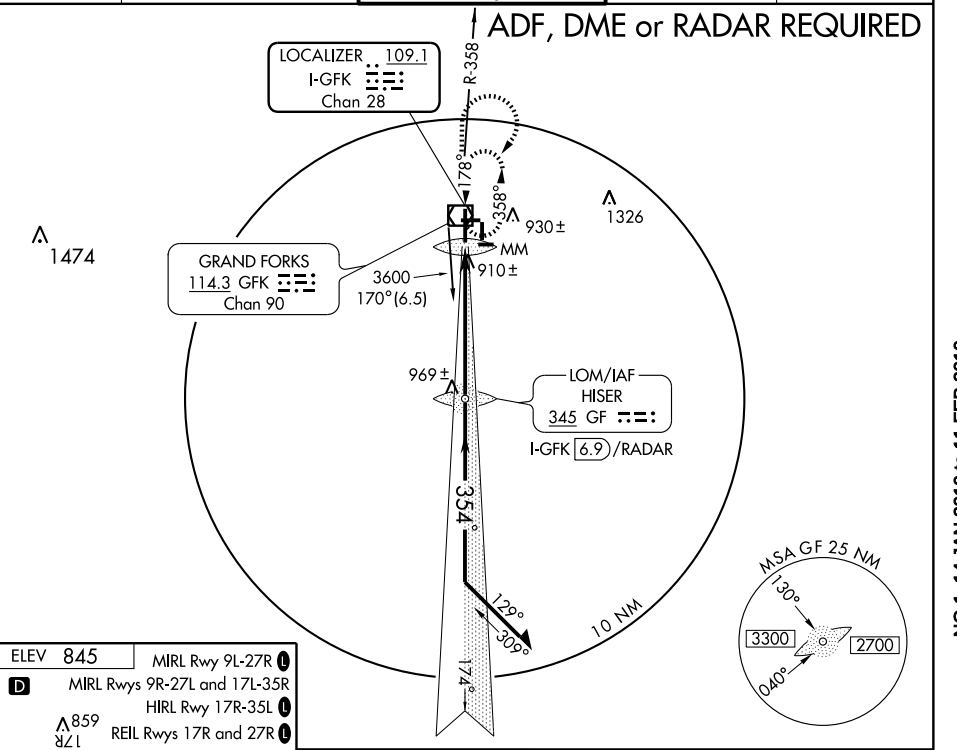
LOC/DME I-GFK	APP CRS	Rwy Idg	7349
109.1	354°	TDZE	845
Chan 28		Apt Elev	845

▲ If local altimeter setting not received, use Crookston altimeter setting and increase all DAs/MDAs 80 feet. Procedure turn NA for Cat. E aircraft. VDP NA with Crookston altimeter setting.
▲ For inoperative MALS/R, increase S-ILS Cat. E visibility to 1.

MALS/R

MISSED APPROACH:
Climb to 3600 then right turn
direct GFK VOR/DME and hold.

ATIS	GRAND FORKS APP CON	GRAND FORKS TOWER*	GND CON	UNICOM
119.4	118.1 318.1	118.4 (CTAF) 350.35	124.575	122.95



ELEV 845

MIRL Rwy 9L-27R

MIRL Rwy 9R-27L and 17L-35R

HIRL Rwy 17R-35L

REIL Rwy 17R and 27R

859

902±

908±

965

871±

4206 X 100

7349 X 150

3900 X 75

3300 X 60

35L

35R

354° 5.6 NM from FAF

FAF to MAP 5.6 NM

Knots	60	90	120	150	180
Min:Sec	5:36	3:44	2:48	2:14	1:52

3600

GFK 114.3

HISER LOM I-GFK 6.9/RADAR

2536

174°

354°

2600

2600

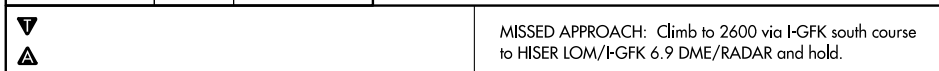
GS 2.76° TCH 61

0.6 0.3 4.7 NM

CATEGORY	A	B	C	D	E
S-ILS 35L	1045-½ 200 (200-½)				
S-LOC 35L	1160-½ 315 (400-½)			1160-¾ 315 (400-¾)	
CIRCLING	1280-1 435 (500-1)	1300-1 455 (500-1)	1300-1¼ 455 (500-1¼)	1400-2 555 (600-2)	1520-2½ 675 (700-2½)

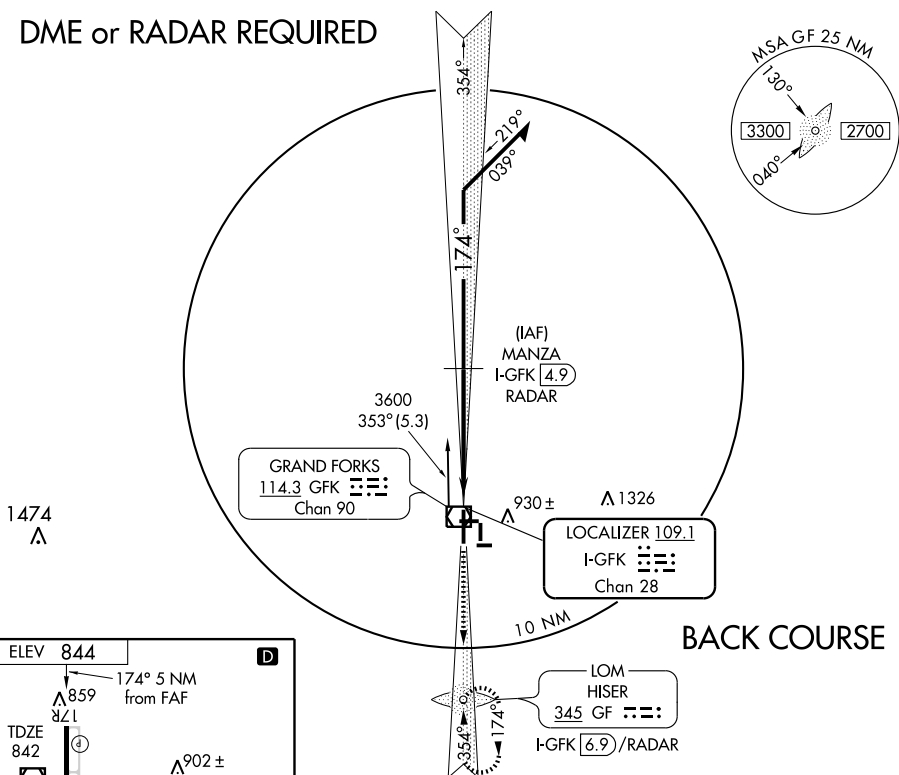
LOC/DME I-GFK 109.1 Chan 28	APP CRS 174°	Rwy Idg 7349 TDZE 842 Apt Elev 844
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LOC BC RWY 17R
GRAND FORKS INTL (GFK)

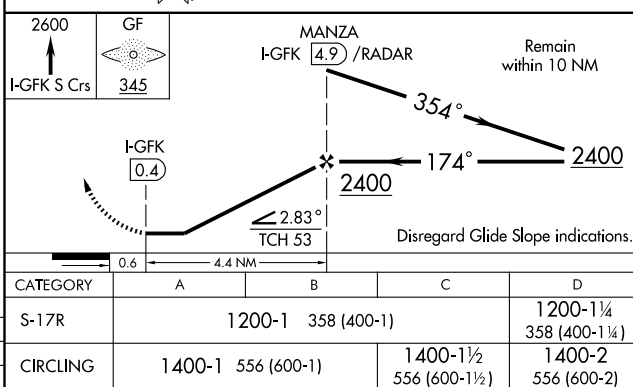
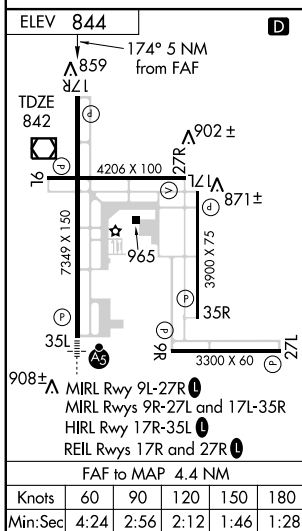


ATIS 119.4	GRAND FORKS APP CON 118.1 318.1	GRAND FORKS TOWER★ 118.4 (CTAF) 0 350.35	GND CON 124.575	UNICOM 122.95
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DME or RADAR REQUIRED



BACK COURSE



WAAS CH 58104 W09A	APP CRS 084°	Rwy Idg TDZE Apt Elev	4206 843 845
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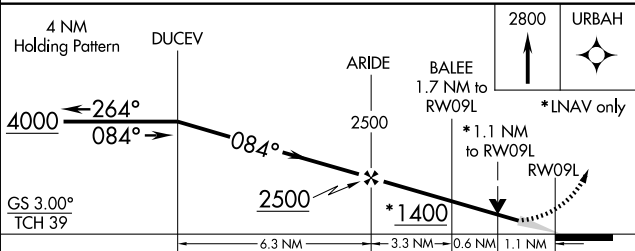
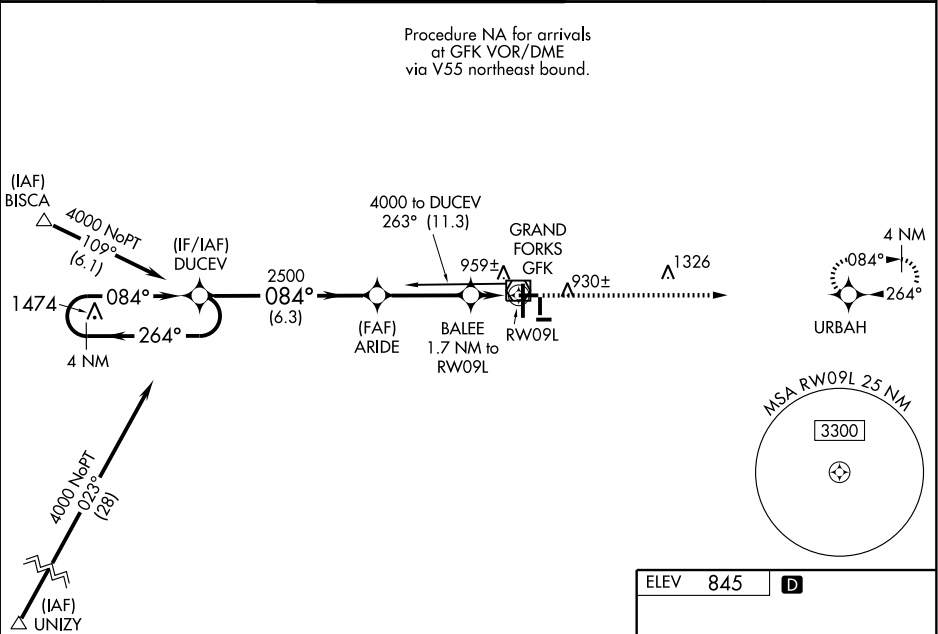
RNAV (GPS) RWY 9L

GRAND FORKS INTL (GFK)

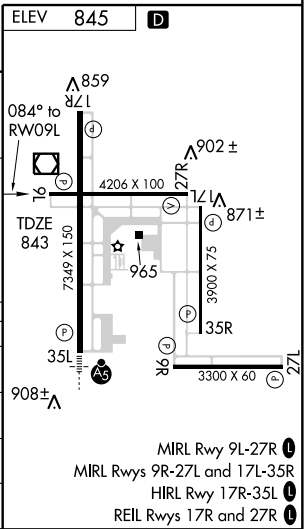
⚠ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F).
⚠ DME/DME RNP- 0.3 NA.
When local altimeter setting not received, use Crockston altimeter setting and increase all DA 62 feet and all MDA 80 feet, increase LNAV/VNAV all Cats and LNAV Cat C/D visibilities ¼ mile.
Baro-VNAV and VDP NA when using Crockston altimeter setting.

MISSED APPROACH: Climb to 2800 direct URBH and hold.

ATIS 119.4	GRAND FORKS APP CON 118.1 318.1	GRAND FORKS TOWER★ 118.4 (CTAF) 0 350.35	GND CON 124.575	UNICOM 122.95
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CATEGORY	A	B	C	D
LPV DA	1093-1 250 (300-1)			
LNAV/VNAV DA	1238-1½ 395 (400-1½)			
LNAV MDA	1220-1 377 (400-1)			1220-1¼ 377 (400-1¼)
CIRCLING	1280-1 435 (500-1)	1300-1 455 (500-1)	1300-1½ 455 (500-1½)	1400-2 555 (600-2)



▼

DME/DME RNP -0.3 NA.

▲

If local altimeter setting not received use Crookston altimeter setting and increase all DAs /MDAs 80 feet.

Baro-VNAV NA with Crookston altimeter setting.

VDP NA with Crookston altimeter setting.

Baro-VNAV NA below -16°C (5°F).

MISSED APPROACH: Climb to 2600 direct ERIXE and hold.

ATIS 119.4	GRAND FORKS APP CON 118.1 318.1	GRAND FORKS TOWER * 118.4 (CTAF) 0 350.35	GND CON 124.575	UNICOM 122.95
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Procedure NA for arrivals at EYWUS via V171 northeast bound, and arrivals at WUTSO via V181 northbound.

MISSED APCH FIX

5 NM Holding Pattern FODIB

CATEGORY	A	B	C	D
LPV DA	1093-¾	250 (300-¾)		
LNAV/VNAV DA	1153-1	310 (400-1)		
LNAV MDA	1180-1	337 (400-1)		
CIRCLING	1280-1 435 (500-1)	1300-1 455 (500-1)	1300-1½ 455 (500-1½)	1400-2 555 (600-2)

ELEV 845

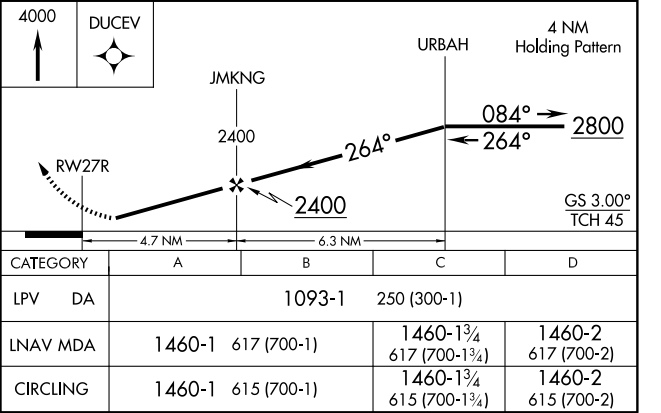
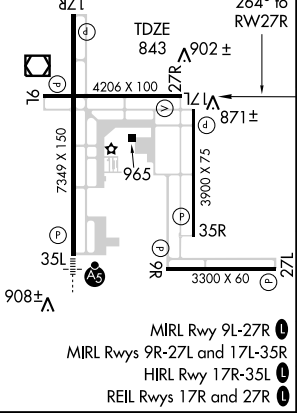
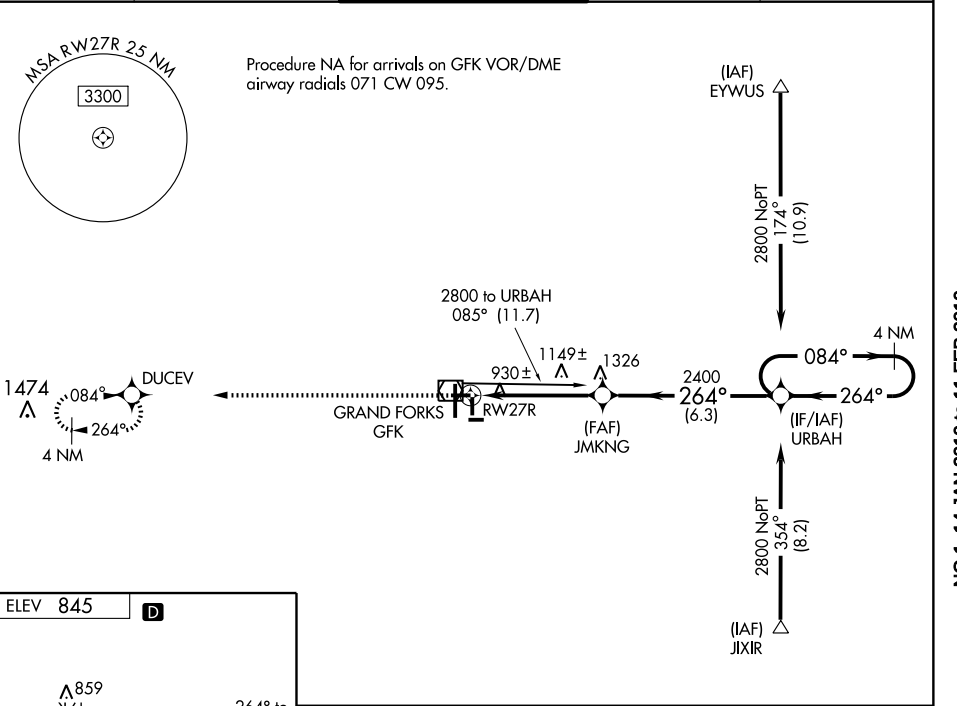
NC-1 14 JAN 2010 to 11 FEB 2010

WAAS CH 78104 W27A	APP CRS 264°	Rwy Idg TDZE Apt Elev	4206 843 845
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⚠ DME/DME RNP-0.3 NA.
⚠ Visibility reduction by helicopters NA.
When local altimeter setting not received, use Crookston altimeter setting and increase all DA 62 feet and all MDA 80 feet.
Increase LNAV and Circling Cat C and D visibility ¼ mile.

MISSED APPROACH: Climb to 4000 direct DUCEV and hold, continue climb-in-hold to 4000.

ATIS 119.4	GRAND FORKS APP CON 118.1 318.1	GRAND FORKS TOWER★ 118.4 (CTAF) 350.35	GND CON 124.575	UNICOM 122.95
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WAAS CH 70313 W35A	APP CRS 354°	Rwy Idg 7349 TDZE 845 Apt Elev 845
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RNAV (GPS) RWY 35L

GRAND FORKS INTL (GFK)

-  DME/DME RNP -0.3 NA. Inoperative table does not apply to LNAV Cat D.
 If local altimeter setting not received, use Crockston altimeter setting and increase all DAs/MDAs 80 feet.
 VDP NA when using Crockston altimeter setting. Baro-VNAV NA below -16°C (4°F).
 Baro-VNAV NA when using Crockston altimeter setting.
 For inoperative MALSR increase LPV all Cots visibility to 1.

MALSR



MISSED APPROACH: Climb to 2600 direct FODIB and hold.

ATIS 119.4	GRAND FORKS APP CON 118.1 318.1	GRAND FORKS TOWER ★ 118.4 (CTAF) 0 350.35	GND CON 124.575	UNICOM 122.95
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Procedure NA for arrivals at GFK VOR/DME
via airway radials 112 CW 234.

MISSED APCH FIX



Δ 1474

GRAND FORKS GFK

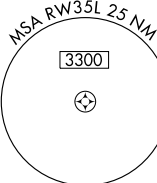
2600 to ERIXE

RW35L

910 ±

A 1326

UNIZY 



ELEV 845	MIRL Rwy 9L-27R
D	MIRL Rwys 9R-27L and 17L-35R
	HIRL Rwy 17R-35L
	REIL Rwys 17R and 27R

2600 FODIB VGS1 and RNAV glidepath not coincident 5 NM Holding Pattern

JAGBI ERIXE

*RNAV only *0.9 NM to RW35L

RW35L

354° 174° 2600

354°

GS 3.00° TCH 55

0.9 4.4 NM 6 NM

CATEGORY		A	B	C	D
LPV	DA	1095-½ 250 (300-½)			
LNAV/ VNAV	DA	1174-½	329 (400-½)	1174-¾ 329 (400-¾)	
LNAV	MDA	1180-½	335 (400-½)	1180-1 335 (400-1)	
CIRCLING		1280-1 435 (500-1)	1300-1 455 (500-1)	1300-1½ 455 (500-1½)	1400-2 555 (600-2)

VOR/DME GFK 114.3 Chan 90	APP CRS 183°	Rwy Idg 7349 TDZE 843 Apt Elev 845
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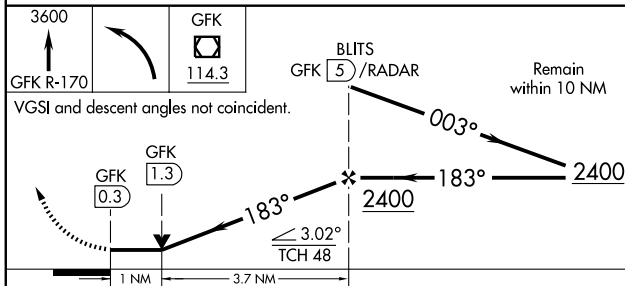
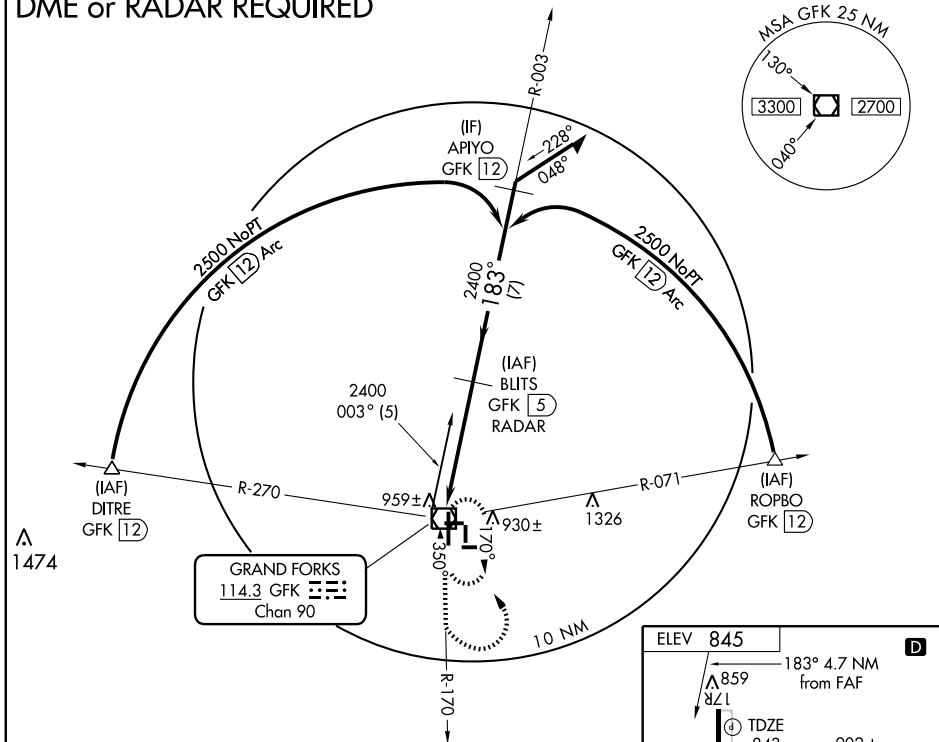
VOR RWY 17R
GRAND FORKS INTL (GFK)

T If local altimeter setting not received, use Crookston altimeter setting and increase all MDAs 80 feet.
A VDP NA with Crookston altimeter setting.

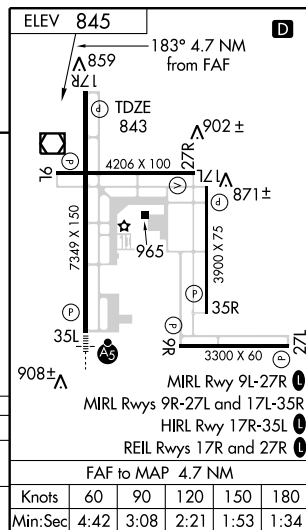
MISSED APPROACH: Climb to 3600 via GFK R-170 then left turn direct GFK VOR/DME and hold.

ATIS	GRAND FORKS APP CON	GRAND FORKS TOWER★	GND CON	UNICOM
119.4	118.1 318.1	118.4 (CTAF) 350.35	124.575	122.95

DME or RADAR REQUIRED



CATEGORY	A	B	C	D
S-17R	1220-1 377 (400-1)			1220-1¼ 377 (400-1¼)
CIRCLING	1280-1 435 (500-1)	1300-1 455 (500-1)	1300-1½ 455 (500-1½)	1400-2 555 (600-2)



VOR/DME GFK	APP CRS	Rwy Idg	7349
114.3	344°	TDZE	845
Chan 90		Apt Elev	845

VOR RWY 35L

GRAND FORKS INTL (GFK)

▼

▲

If local altimeter setting not received use Crookston altimeter setting and increase, all MDAs 80 feet.
ELVAW FIX MINIMUMS: For inoperative MALS, increase S-35L, Cat D visibility to 1 1/4 mile.

MALS

AS

MISSED APPROACH: Climb to 1300 then climb to 3600 via GFK R-360 then right turn direct GFK VOR/DME and hold.

ATIS	GRAND FORKS APP CON	GRAND FORKS TOWER*	GND CON	UNICOM
119.4	118.1 318.1	118.4 (CTAF) 350.35	124.575	122.95

1300

3600

GFK R-360

GFK

114.3

VOR/DME

Remain within 10 NM

VGSI and descent angles not coincident

*1440 when using Crookston altimeter setting.

164°

ELVAW GFK 2.4

344°

2500

1360*

≤ 3.01°

TCH 55

1.0

1.4 NM

CATEGORY	A	B	C	D
S-35L	1360-1/2	515 (600-1/2)	1360-1 515 (600-1)	1360-1 1/4 515 (600-1 1/4)
CIRCLING	1360-1	515 (600-1)	1360-1 1/2 515 (600-1 1/2)	1400-2 555 (600-2)

ELVAW FIX MINIMUMS

S-35L	1220-1/2	375 (400-1/2)	1220-1 375 (400-1)	
CIRCLING	1280-1 435 (500-1)	1300-1 455 (500-1)	1300-1 1/4 455 (500-1 1/4)	1400-2 555 (600-2)

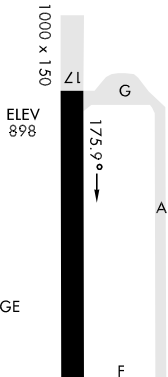
NC-1 14 JAN 2010 to 11 FEB 2010

ATIS ★
273.45
RED RIVER TOWER
124.9 349.0
GND CON
119.15 275.8
CLNC DEL
119.15 360.7

47°59'N



AUGUST 2009
ANNUAL RATE OF CHANGE
0.1° W



47°58'N

12,351 x 150

HOT CARGO

CONTROL TOWER

ELEV 900

TANKS

1014
A

47°57'N

A 1053

FIELD
ELEV
913

0.6556
051 x 0001

ELEV 900
FIRE STATION

BASE OPS

TANKS

Rwy 17-35
PCN 139 R/A/W/T

97°25'W

97°24'W

97°23'W

NC-1, 14 JAN 2010 to 11 FEB 2010

LOC I-AVA 111.3	APCH CRS 174°	Rwy Idg 12,351 TDZE 902 Arpt Elev 913
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JAL-5010 [USAF]

GRAND FORKS AFB (KRDR)

- * When ALS inop, increase CAT CDE RVR to 40 and vis to $\frac{3}{4}$ mile.
 ** When ALS inop, increase CAT CD RVR to 50 and vis to 1 mile, CAT E RVR to 60 and vis to $1\frac{1}{4}$ mile.

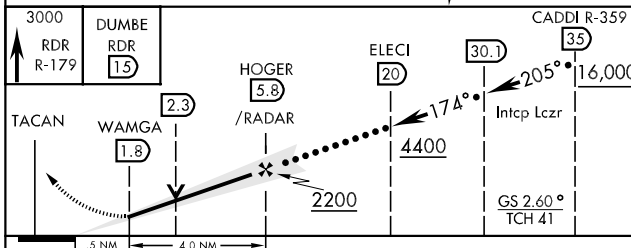
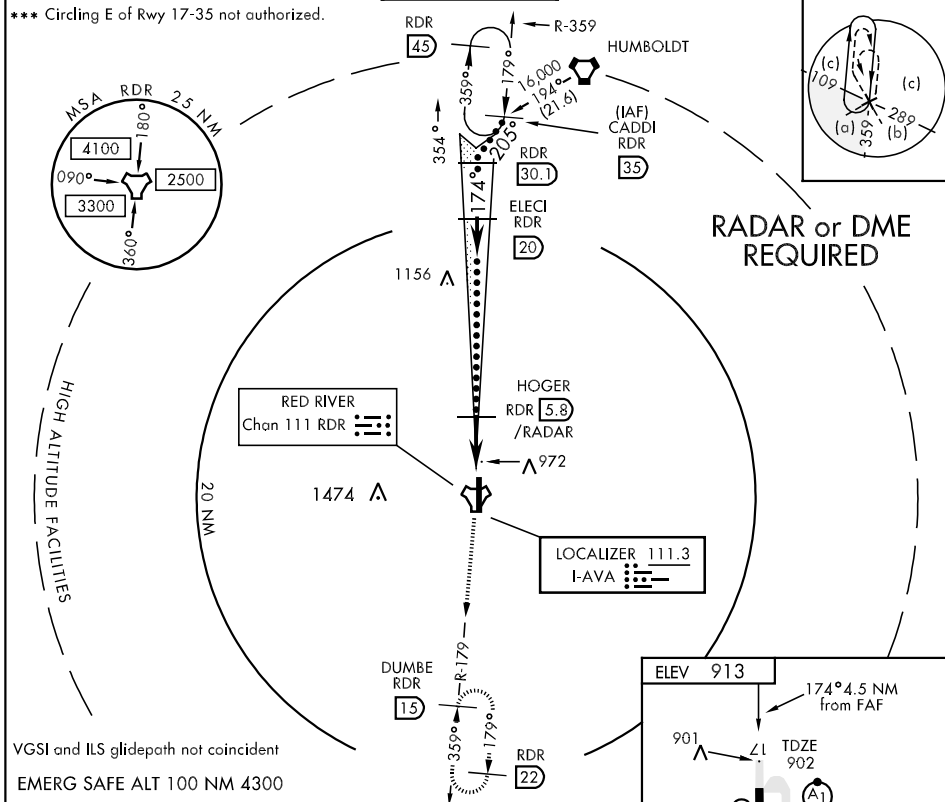
ALSF-1



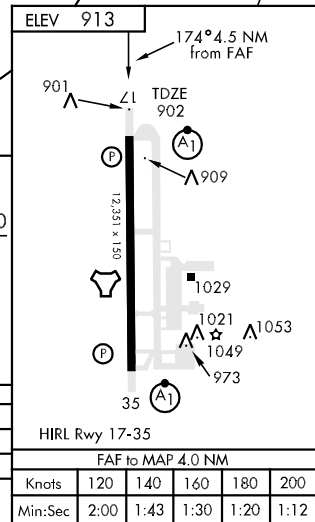
MISSED APPROACH: Climb to 3000 on RDR
 TACAN R-179 to DUMBE and hold.

ATIS ★ 273.45	GRAND FORKS APP CON 118.1 318.1	RED RIVER TOWER 124.9 349.0	GND CON 119.15 275.8	CLNC DEL 119.15 360.7
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*** Circling E of Rwy 17-35 not authorized.



CATEGORY	C	D	E
S-ILS 17 *	1102/24	200	(200- $\frac{1}{2}$)
S-LOC 17 **	1240/40	338	(400- $\frac{3}{4}$)
CIRCLING***	1380-1 $\frac{1}{2}$ 467 (500-1 $\frac{1}{2}$)	1480-2 567 (600-2)	2040-3 1127 (1200-3)



LOC I-RDR **109.9** APCH CRS **354°** Rwy Idg **12,351**
TDZE **913**
Arprt Elev **913**

JAL-5010 [USAF]

GRAND FORKS AFB (KRDR)

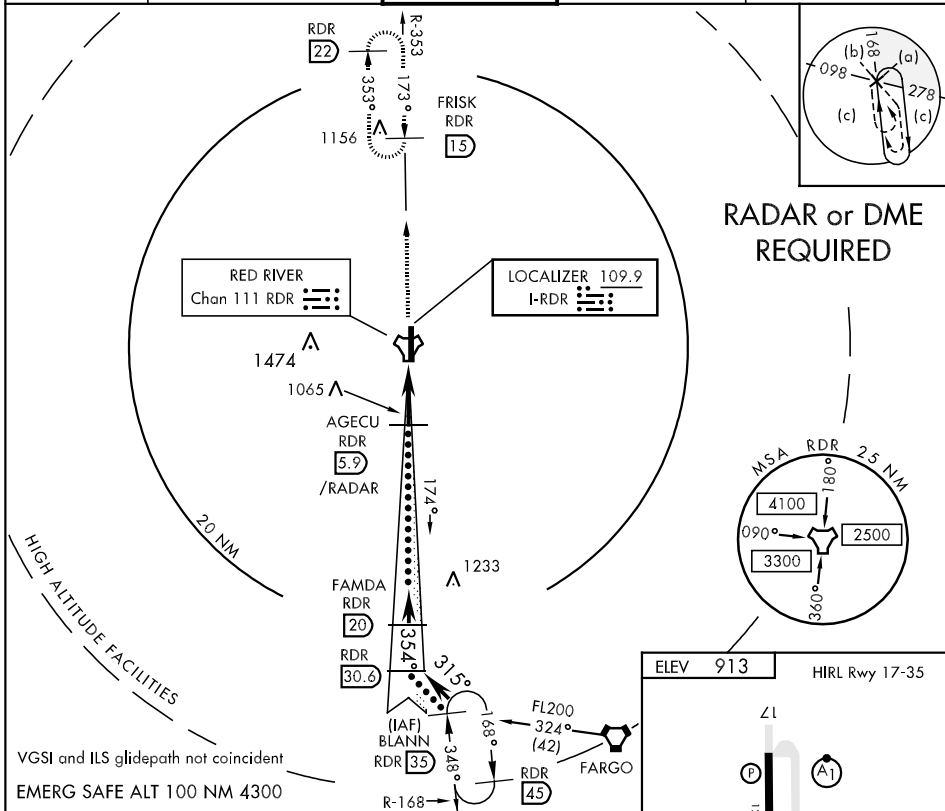
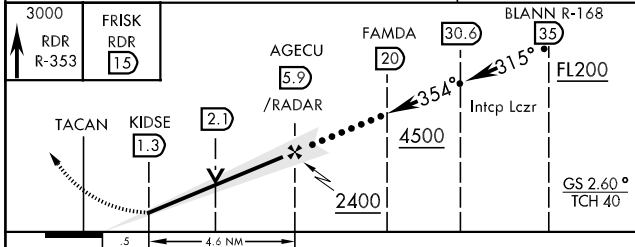
* When ALS inop, increase CAT CDE RVR to 40 and vis to $\frac{3}{4}$ mile.
** When ALS inop, incr CAT CD RVR to 60 and vis to $1\frac{1}{2}$ mile, CAT E vis to $1\frac{1}{2}$.
*** Circling E of Rwy 17-35 not authorized.

ALS-1

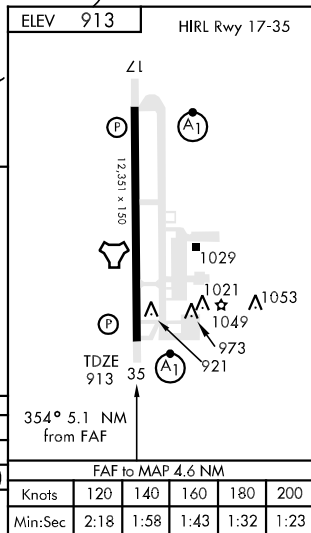


MISSED APPROACH: Climb to 3000
on RDR TACAN R-353 to FRISK
and hold.

ATIS ★ 273.45	GRAND FORKS APP CON 118.1 318.1	RED RIVER TOWER 124.9 349.0	GND CON 119.15 275.8	CLNC DEL 119.15 360.7
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RADAR or DME
REQUIRED

CATEGORY	C	D	E
S-ILS 35 *	1113/24	200 (200- $\frac{1}{2}$)	
S-LOC 35 **	1320/40 407 (500- $\frac{3}{4}$)	1320/50 407 (500-1)	
CIRCLING ***	1380-1 $\frac{1}{2}$ 467 (500-1 $\frac{1}{2}$)	1480-2 567 (600-2)	2040-3 1127 (1200-3)



TACAN RDR Chan 111	APCH CRS 179°	Rwy Idg 12,351 TDZE 902 Arpt Elev 913
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JAL-5010 [USAF]

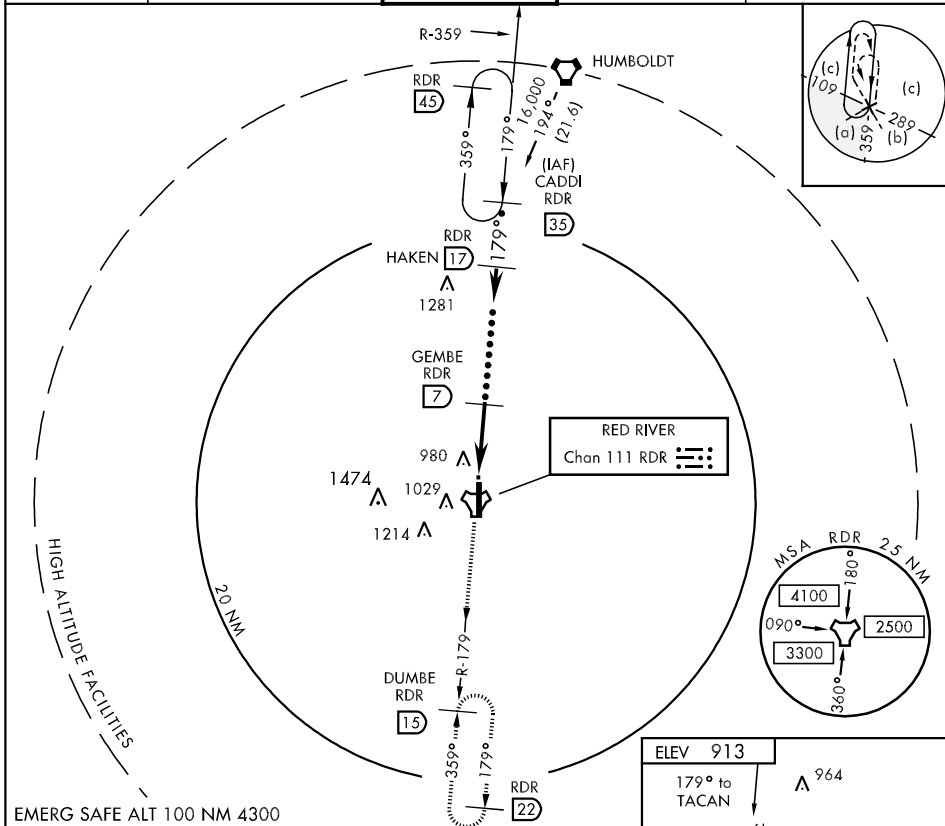
GRAND FORKS AFB (KRDR)

* When ALS inop, increase CAT CD RVR to 50 and vis to 1 mile, CAT E RVR to 60 and vis to 1¼ mile.
** Circling E of Rwy 17-35 not authorized.

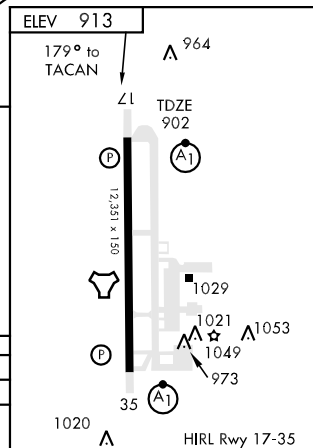
ALSF-1

MISSED APPROACH: Climb to 3000 on RDR TACAN R-179 to DUMBE and hold.

ATIS ★ 273.45	GRAND FORKS APP CON 118.1 318.1	RED RIVER TOWER 124.9 349.0	GND CON 119.15 275.8	CLNC DEL 119.15 360.7
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CATEGORY	C	D	E
S-17 *	1240 / 40	338 (400-3)	
CIRCLING **	1380-1½ 467 (500-1½)	1480-2 567 (600-2)	2040-3 1127 (1200-3)



TACAN RDR
Chan **111**

APCH CRS
348°

Rwy Idg **12,351**
TDZE **913**
Arpt Elev **913**

JAL-5010 [USAF]

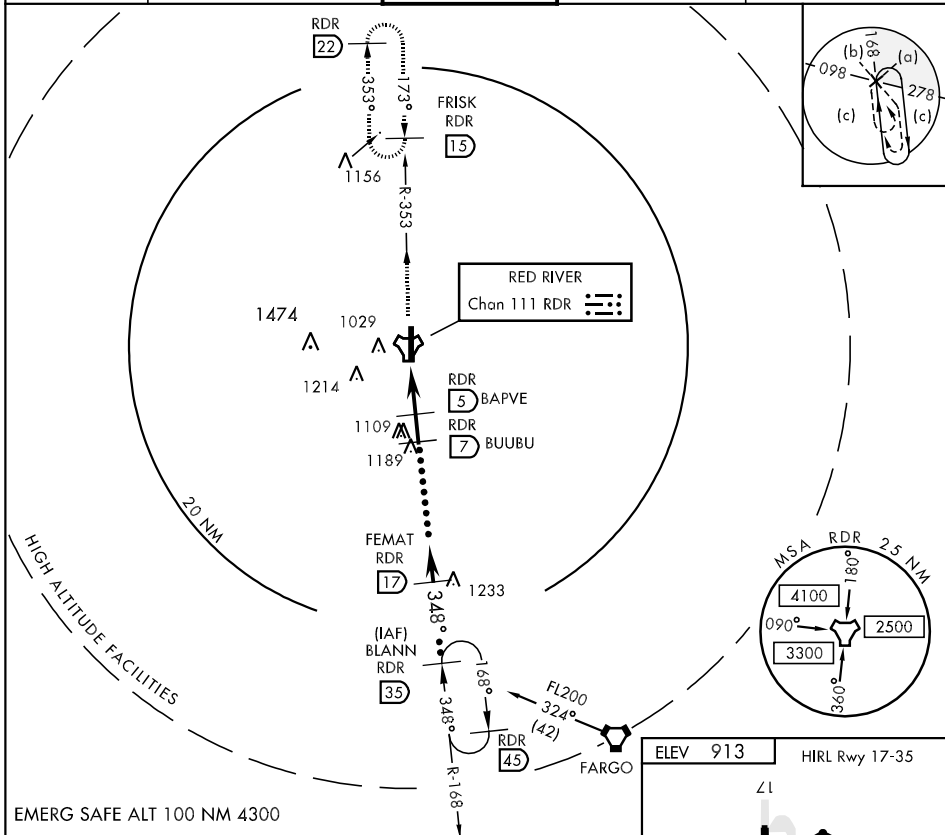
GRAND FORKS AFB (KRDR)

* When ALS inop, increase CAT CD RVR to 60
and vis to 1¼ miles, CAT E vis to 1½ miles.
** Circling E of Rwy 17-35 not authorized.

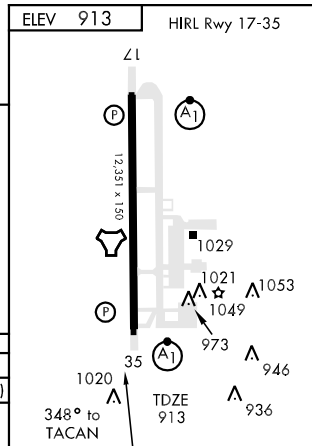


MISSED APPROACH: Climb to 3000 on
RDR TACAN R-353 to FRISK and hold.

ATIS ★ 273.45	GRAND FORKS APP CON 118.1 318.1	RED RIVER TOWER 124.9 349.0	GND CON 119.15 275.8	CLNC DEL 119.15 360.7
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3000	FRISK RDR 15	FEMAT RDR 17	BLANN RDR 35	FL200
R-353				
TACAN	MUDBE 1.4	BAPVE 2.1	BUUBU 7	
	3.6 NM	2 NM		
2100	2700	4000		
1.6				2.54° TCH 48
CATEGORY	C	D	E	
S-35 *	1320/40	407 (500-¾)	1320/50 407 (500-1)	
CIRCLING **	1380-1½ 467 (500-1½)	1480-2 567 (600-2)	2040-3 1127 (1200-3)	



LOC I-RDR <u>109.9</u>	APCH CRS 354°	Rwy Idg 12,351 TDZE 913 Arpt Elev 913
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AL-5010 [USAF]

GRAND FORKS AFB (KRDR)

* When ALS inop, increase RVR to 40 and vis to ¾ mile.

**** When ALS inop, increase CAT AB RVR to 50 and vis to 1 mile, CAT CD RVR to 60 and vis to 1¼ miles, CAT E vis to 1½ miles.**

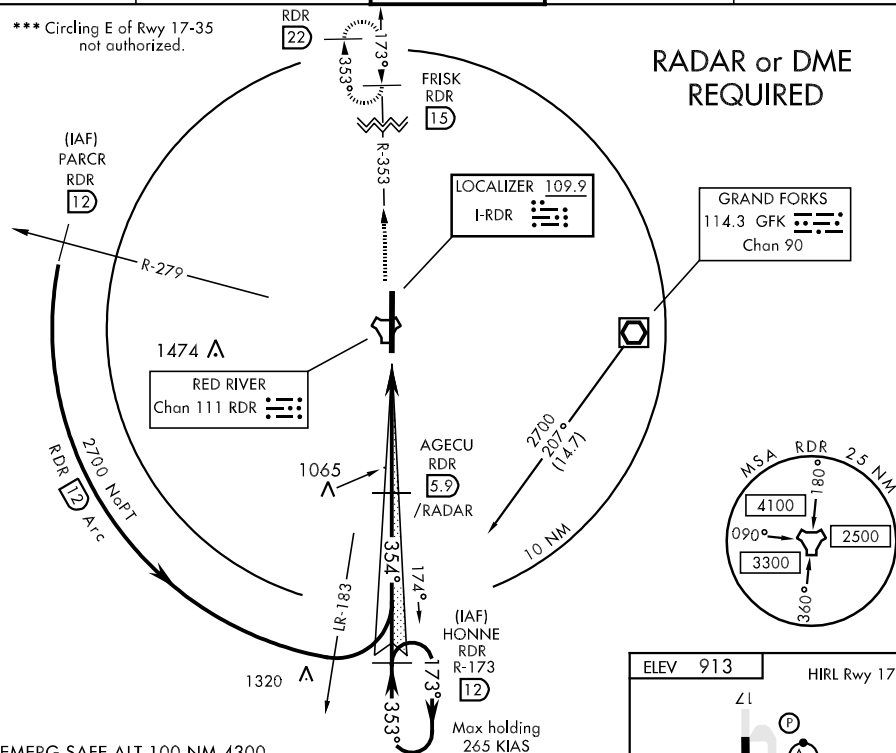
ALSF-1



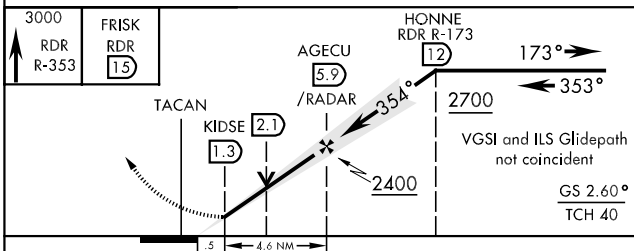
MISSED APPROACH: Climb to 3000 on RDR TACAN R-353 to FRISK and hold.

ATIS ★ 273.45	GRAND FORKS APP CON 118.1 318.1	RED RIVER TOWER 124.9 349.0	GND CON 119.15 275.8	CLNC DEL 119.15 360.7
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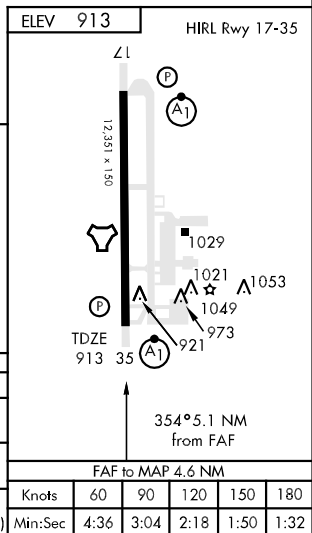
*** Circling E of Rwy 17-35
not authorized.



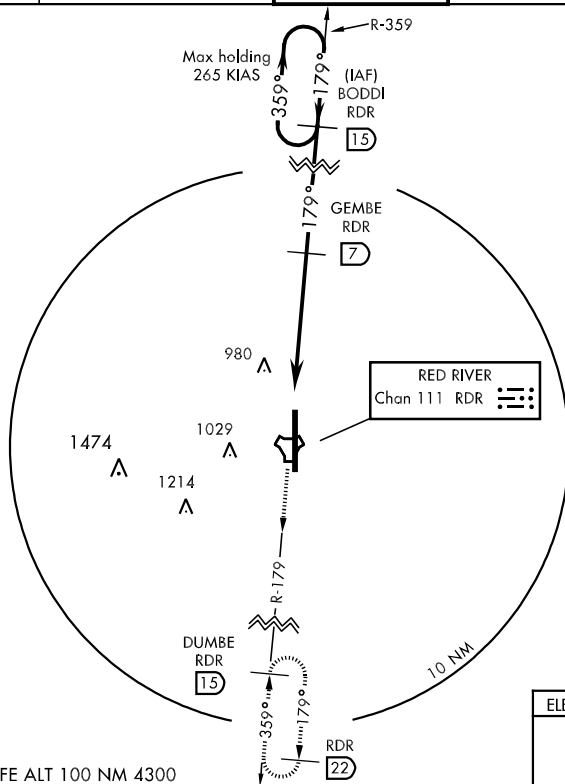
EMERG SAFE ALT 100 NM 4300



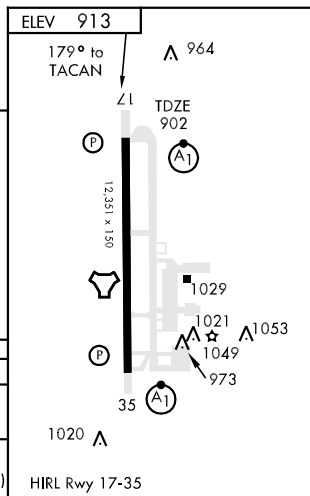
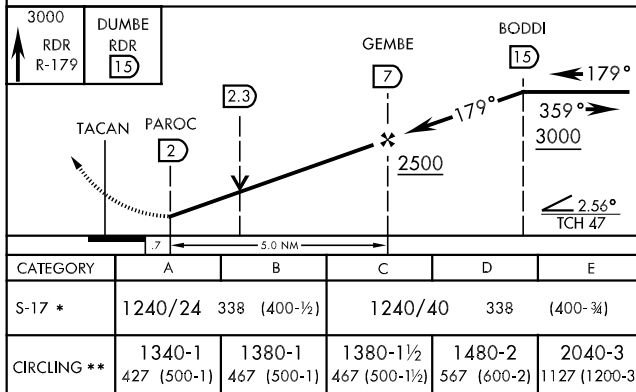
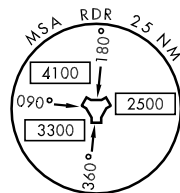
CATEGORY	A	B	C	D	E
S-ILS 35 *	1113/24		200	(200-½)	
S-LOC 35 **	1320/24	407 (500-½)	1320/40	407 (500-¾)	1320/50 407 (500-1)
CIRCLING ***	1340-1 427 (500-1)	1380-1 467 (500-1)	1380-1½ 467 (500-1½)	1480-2 567 (600-2)	2040-3 1127 (1200-3)



TACAN RDR Chan 111	APCH CRS 179°	Rwy Idg 12,351 TDZE 902 Arpt Elev 913	AL-5010 [USAF]		TACAN RWT 17 GRAND FORKS AFB (KRDR)	
* When ALS inop, increase CAT ABCD RVR to 50 and vis to 1 mile, CAT E RVR to 60 and vis to 1 1/4 miles. ** Circling E of Rwy 17-35 not authorized.			ALSF-1 	MISSED APPROACH: Climb to 3000 on RDR TACAN R-179 to DUMBE and hold.		
ATIS ★ 273.45	GRAND FORKS APP CON 118.1 318.1		RED RIVER TOWER 124.9 349.0		GND CON 119.15 275.8	CLNC DEL 119.15 360.7



EMERG SAFE ALT 100 NM 4300



TACAN RDR Chan **111** APCH CRS **348°** Rwy Idg **12,351**
 TDZE **913**
 Arpt Elev **913**

AL-5010 [USAF]

GRAND FORKS AFB (KRDR)

* When ALS inop, increase CAT AB RVR to 50 and vis to 1 mile,
 CAT CD RVR to 60 and vis to 1¼ miles, CAT E vis to 1½ miles.
 ** Circling E of Rwy 17-35 not authorized.

ALSF-1



MISSED APPROACH: Climb to 3000 on
 RDR TACAN R-353 to FRISK and hold.

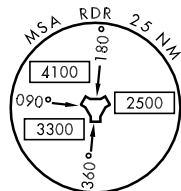
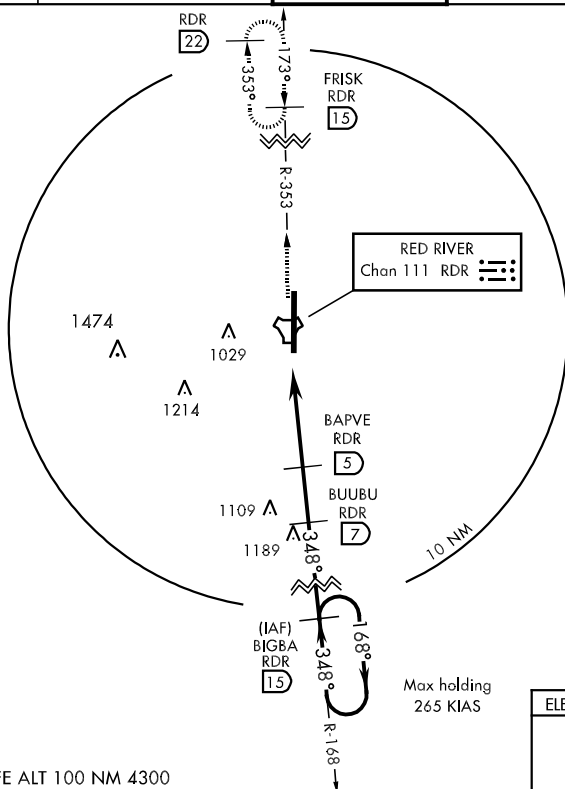
ATIS ★
273.45

GRAND FORKS APP CON
118.1 318.1

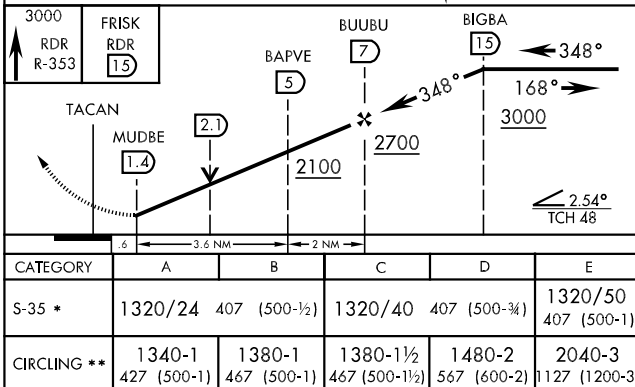
RED RIVER TOWER
124.9 349.0

GND CON
119.15 275.8

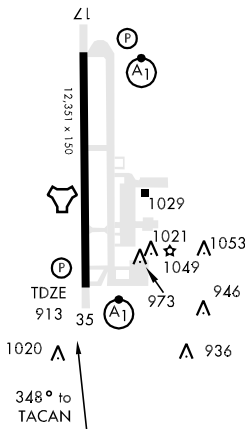
CLNC DEL
119.15 360.7



EMERG SAFE ALT 100 NM 4300



ELEV 913 HIRL Rwy 17-35



NDB GWR	APP CRS	Rwy Idg	4986
<u>278</u>	344°	TDZE	1256
		Apt Elev	1266

NDB RWY 34
GWINNER-ROGER MELROE FIELD (GWR)

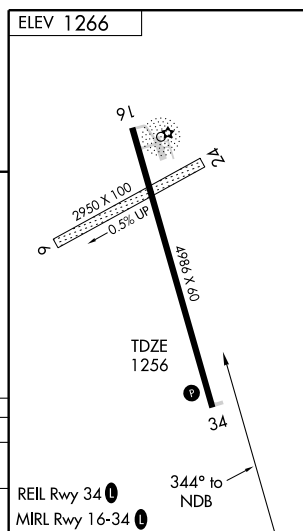
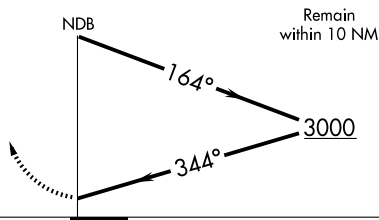
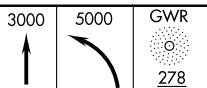
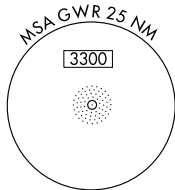
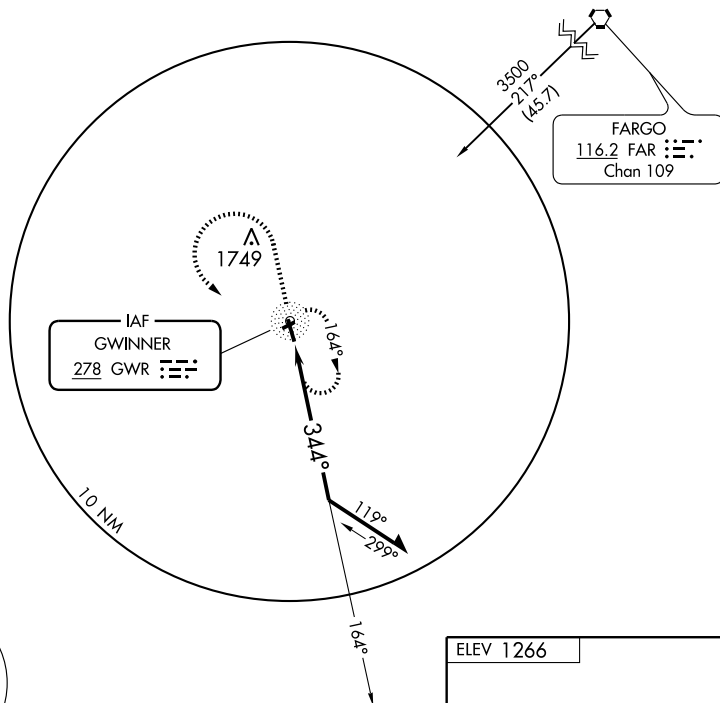
T When local altimeter setting not received, use Fargo altimeter setting and increase all MDA 180 feet. Increase all Cat B visibilities $\frac{1}{4}$ mile, and all Cat C/D visibilities $\frac{3}{4}$ mile.

MISSED APPROACH: Climb to 3000 then climbing left turn to 5000 direct GWR NDB and hold, continue climb-in-hold to 5000.

AWOS-3
118.325

MINNEAPOLIS CENTER
127.35 278.3

UNICOM
122.7 (CTAF) **L**



CATEGORY	A	B	C	D
S-34	1840-1	584 (600-1)	1840-1½ 584 (600-1½)	1840-1¾ 584 (600-1¾)
CIRCLING	1840-1	574 (600-1)	1840-1½ 574 (600-1½)	1840-2 574 (600-2)

APP CRS	Rwy Idg	4986
160°	TDZE	1256
	Apt Elev	1266

RNAV (GPS) RWY 16

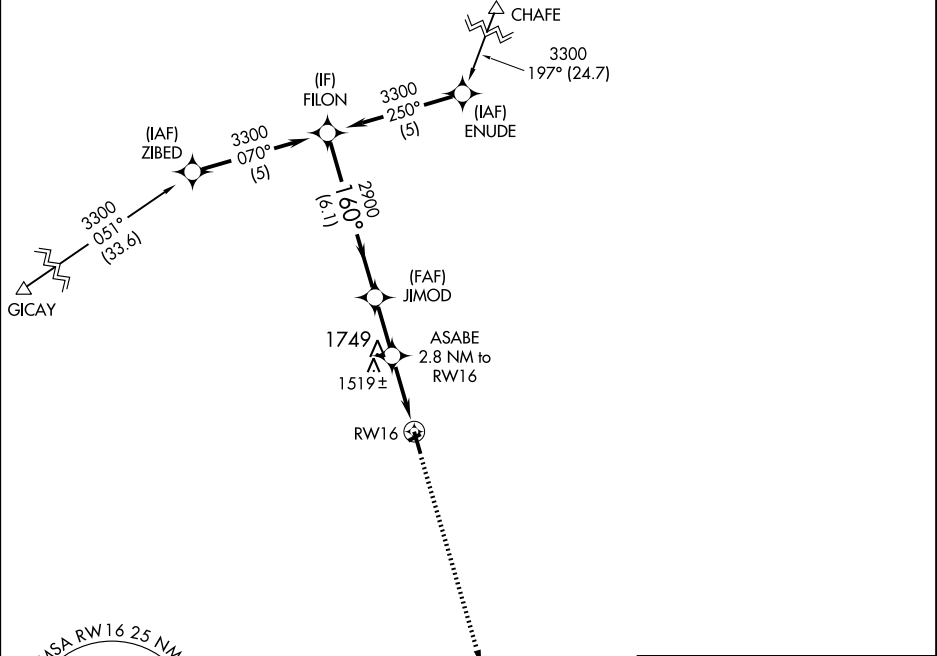
GWINNER-ROGER MELROE FIELD (GWR)

NA

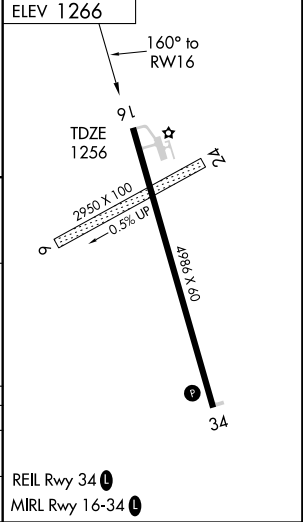
DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Fargo altimeter setting and increase all MDA 180 feet. Increase LNAV Cat C/D visibility ½ mile, Circling Cat C ½ mile and Cat D ¼ mile.

MISSED APPROACH: Climb to 5000 direct WASWK and hold, continue climb-in-hold to 5000.

AWOS-3 118.325	MINNEAPOLIS CENTER 127.35 278.3	UNICOM 122.7 (CTAF) 0
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	FILON		JIMOD		ASABE 2.8 NM to RW16	5000	WASWK
	3300		2900		2180		
	160°		3.04°		TCH 40		
Procedure Turn NA							
	6.1 NM		2.2 NM		2.8 NM		
CATEGORY	A		B		C	D	
LNAV MDA	1780-1		524 (600-1)		1780-1½ 524 (600-1½)	1780-1¾ 524 (600-1¾)	
CIRCLING	1780-1		514 (600-1)		1780-1½ 514 (600-1½)	1820-2 554 (600-2)	



APP CRS	Rwy Idg	4986
340°	TDZE	1256
	Apt Elev	1266

RNAV (GPS) RWY 34

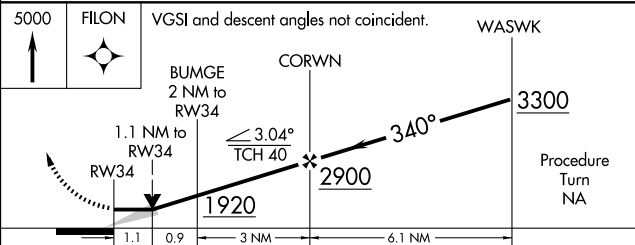
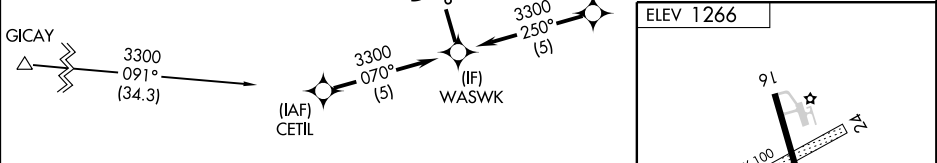
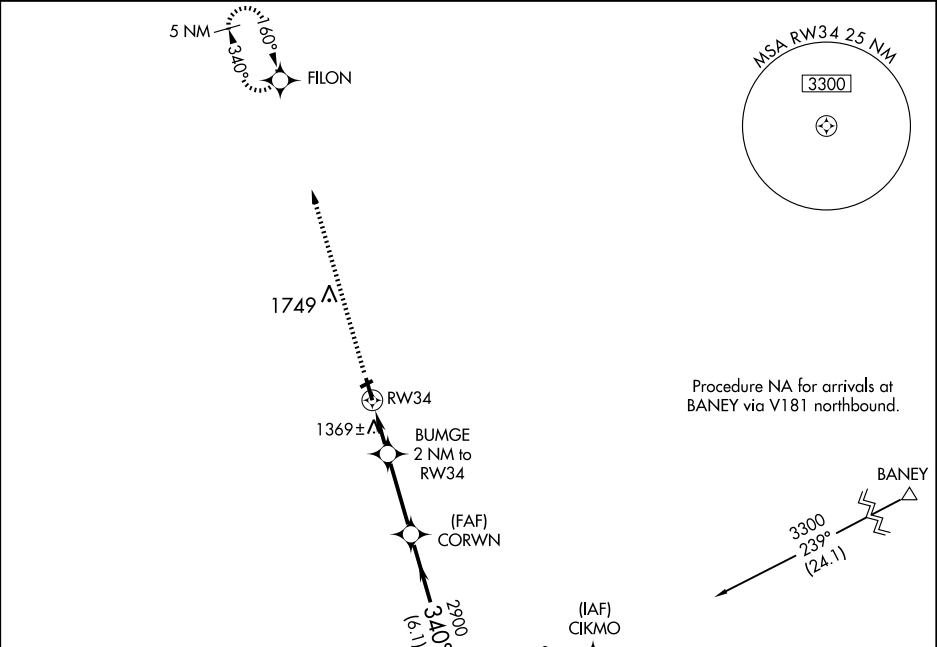
GWINNER-ROGER MELROE FIELD (GWR)

NA

DME/DME RNP-0.3 NA. When local altimeter setting not received, use Fargo altimeter setting and increase all MDA 180 feet. Increase LNAV Cat C/D visibility ½ mile, Circling Cat C/D ¼ mile. VDP NA when using Fargo altimeter setting.

MISSED APPROACH: Climb to 5000 direct FILON and hold, continue climb-in-hold to 5000.

AWOS-3 118.325	MINNEAPOLIS CENTER 127.35 278.3	UNICOM 122.7(CTAF) 0
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CATEGORY	A	B	C	D
LNAV MDA	1620-1	364 (400-1)	1620-1¼	364 (400-1¼)
CIRCLING	1700-1 434 (500-1)	1720-1 454 (500-1)	1720-1½ 454 (500-1½)	1820-2 554 (600-2)

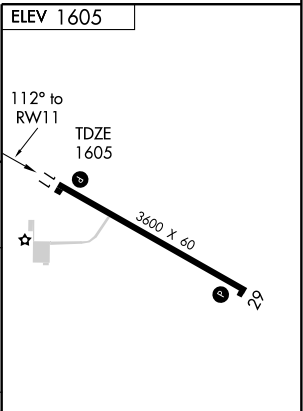
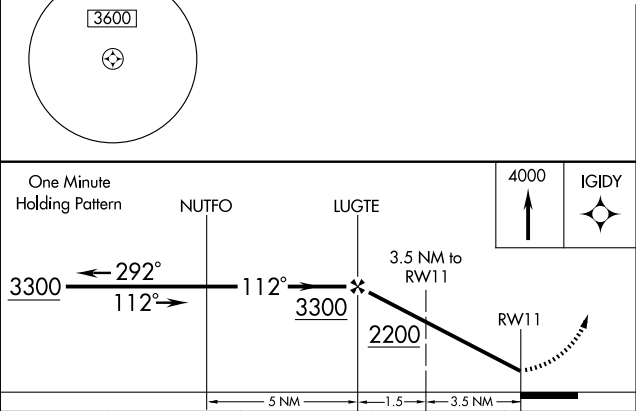
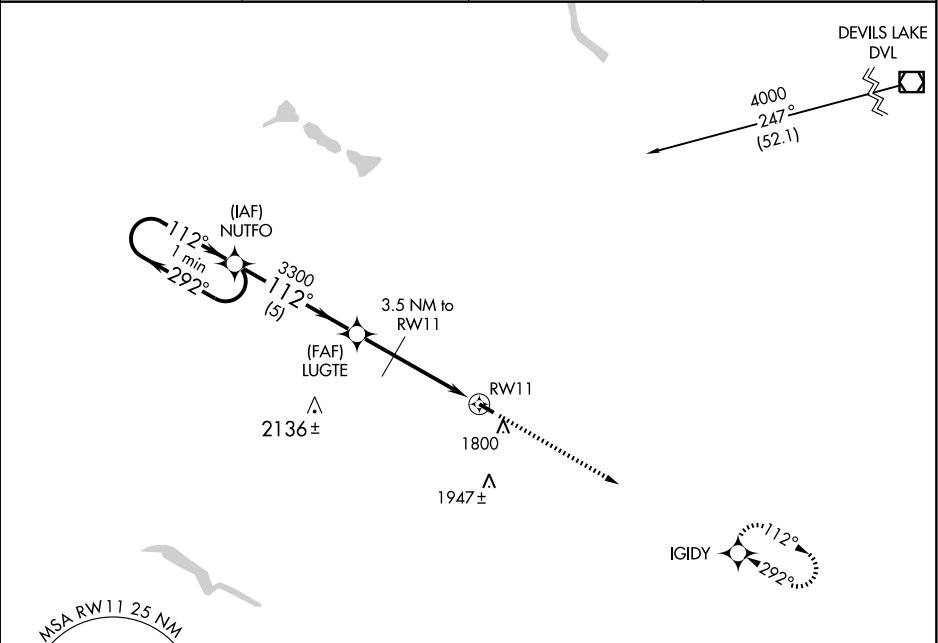
REIL Rwy 34 0

MIRL Rwy 16-34 0

GPS RWY 11
HARVEY MUNI (5H4)

APP CRS	Rwy Idg	3600
112°	TDZE	1605
	Apt Elev	1605

NA Use Devils Lake altimeter setting. Procedure not authorized at night.		MISSED APPROACH: Climb to 4000 direct IGIDY WP and hold.	
AWOS-3 118.825	DEVILS LAKE AWOS-3 125.875	MINNEAPOLIS CENTER 126.8 256.7	UNICOM 122.8 (CTAF) 0



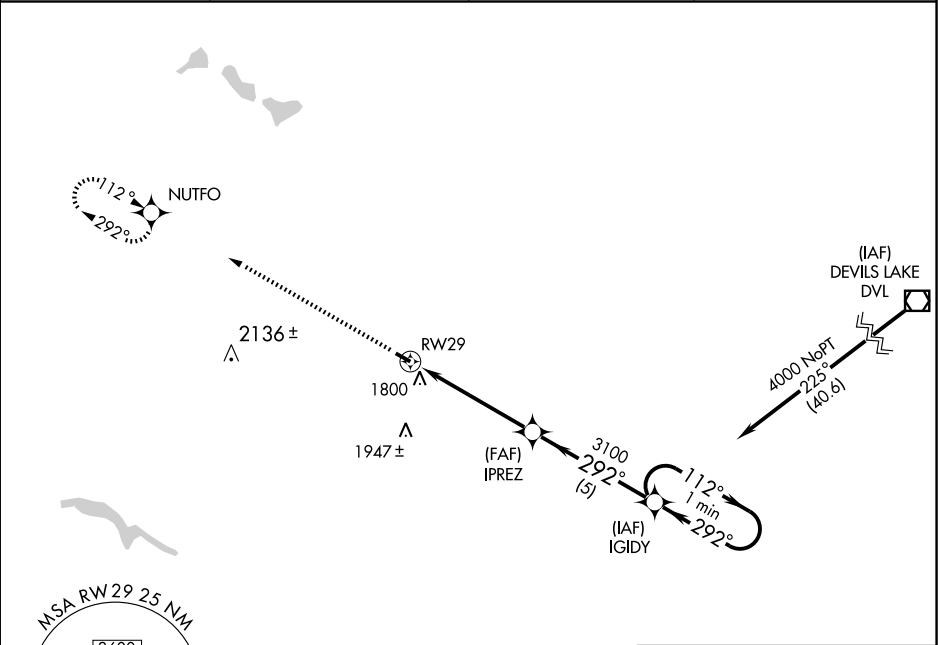
CATEGORY	A	B	C	D
S-11	2080-1	475 (500-1)	2080-1¼ 475 (500-1¼)	NA
CIRCLING	2240-1	635 (700-1)	2240-1¾ 635 (700-1¾)	NA

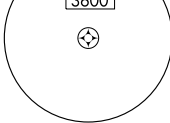
MIRL Rwy 11-29 0

GPS RWY 29
HARVEY MUNI (5H4)

APP CRS	Rwy Idg	3600
292°	TDZE	1605
	Apt Elev	1605

NA Use Devils Lake altimeter setting. Procedure not authorized at night.		MISSED APPROACH: Climb to 4000 direct NUTFO WP and hold.	
AWOS-3 118.825	DEVILS LAKE AWOS-3 125.875	MINNEAPOLIS CENTER 126.8 256.7	UNICOM 122.8 (CTAF) 0





ELEV 1605

4000



NUTFO



IPREZ



IGIDY



292°



112°



292°



3100



3100



5 NM



5 NM



CATEGORY

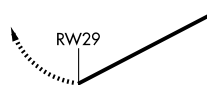
A

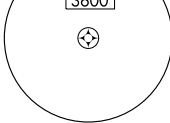
B

C

D

S-29	2140-1	535 (600-1)	2140-1½ 535 (600-1½)	NA
CIRCLING	2240-1	635 (700-1)	2240-1¾ 635 (700-1¾)	NA





ELEV 1605

4000



NUTFO



IPREZ



IGIDY



292°



112°



292°



3100



3100



5 NM



5 NM



CATEGORY

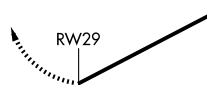
A

B

C

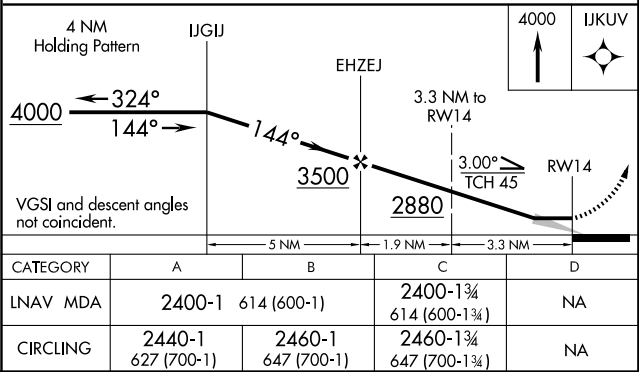
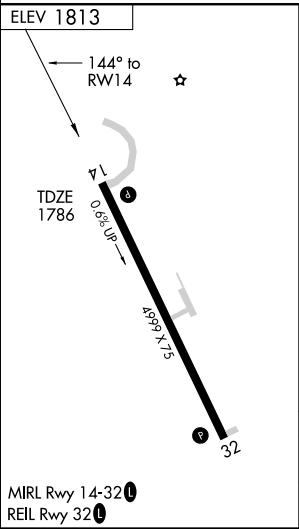
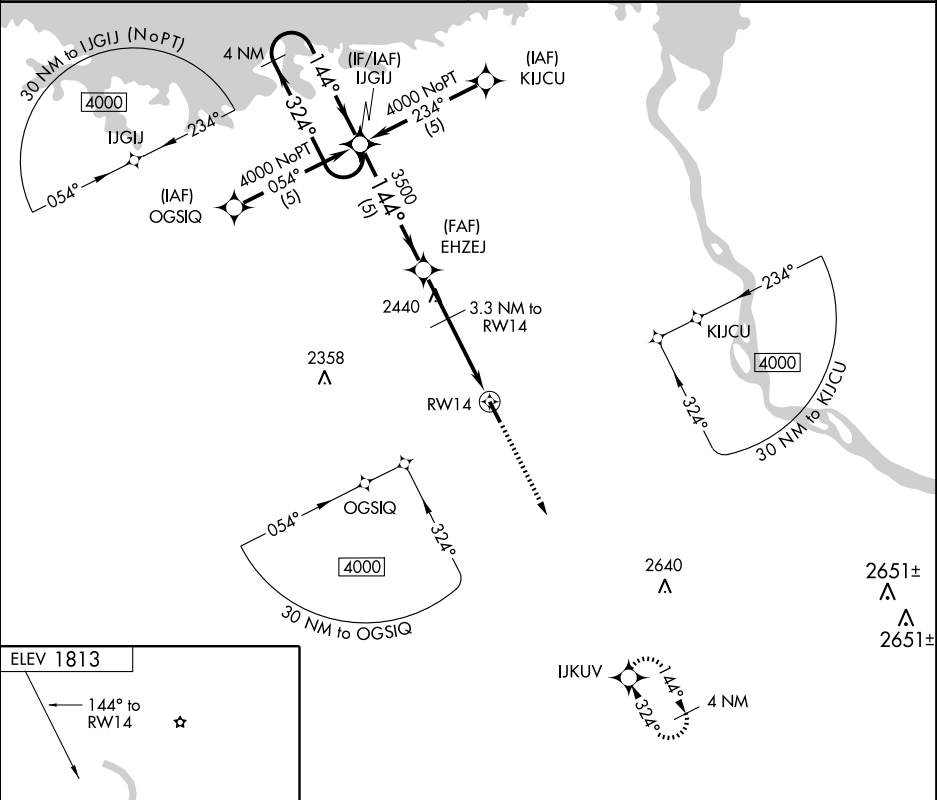
D

S-29	2140-1	535 (600-1)	2140-1½ 535 (600-1½)	NA
CIRCLING	2240-1	635 (700-1)	2240-1¾ 635 (700-1¾)	NA



MIRL Rwy 11-29 0

▲ NA Use Bismarck, ND altimeter setting. GPS or RNP 0.3-required. DME/DME RNP-0.3 NA.	MISSED APPROACH: Climb to 4000 direct IJKUV WP and hold.
MINNEAPOLIS CENTER 124.25 380.3	CTAF 122.8



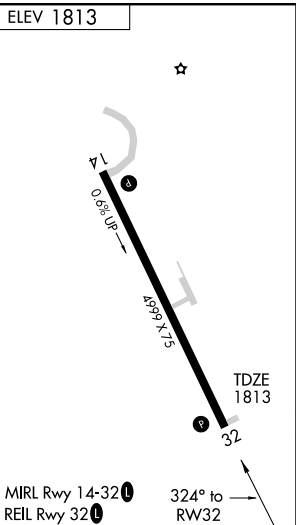
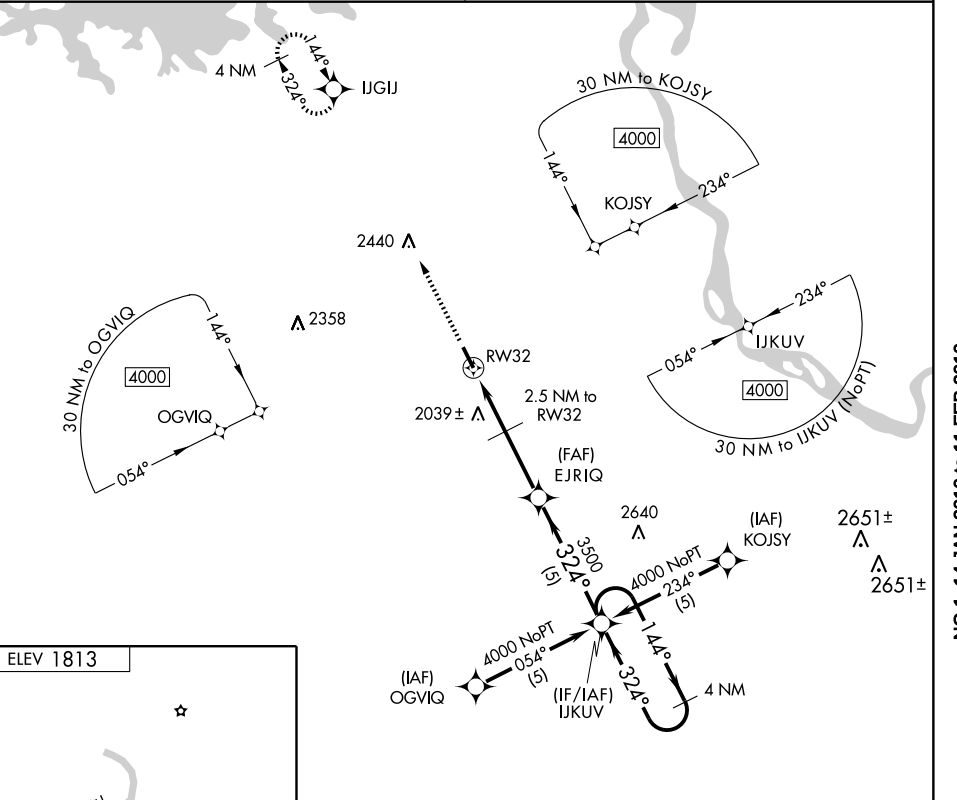
▲ NA

Use Bismarck, ND altimeter setting.
GPS or RNP-0.3 required.
DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 4000 direct IJGI WP and hold.

MINNEAPOLIS CENTER
124.25 380.3

CTAF
122.8



	4000	IJGI		IJKUV	4 NM Holding Pattern
			EJRQ		144° → 4000
					← 324°
					VGSI and descent angles not coincident.
CATEGORY	A	B	C	D	
LNVA MDA	2420-1	607 (700-1)	2420-1 3/4 607 (700-1 3/4)	NA	
CIRCLING	2440-1 627 (700-1)	2460-1 647 (700-1)	2460-1 3/4 647 (700-1 3/4)	NA	

APP CRS	Rwy Idg	4652
304°	TDZE	2705
	Apt Elev	2705

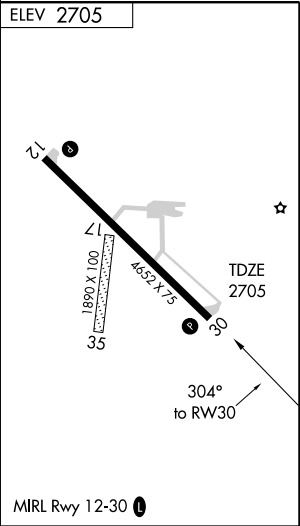
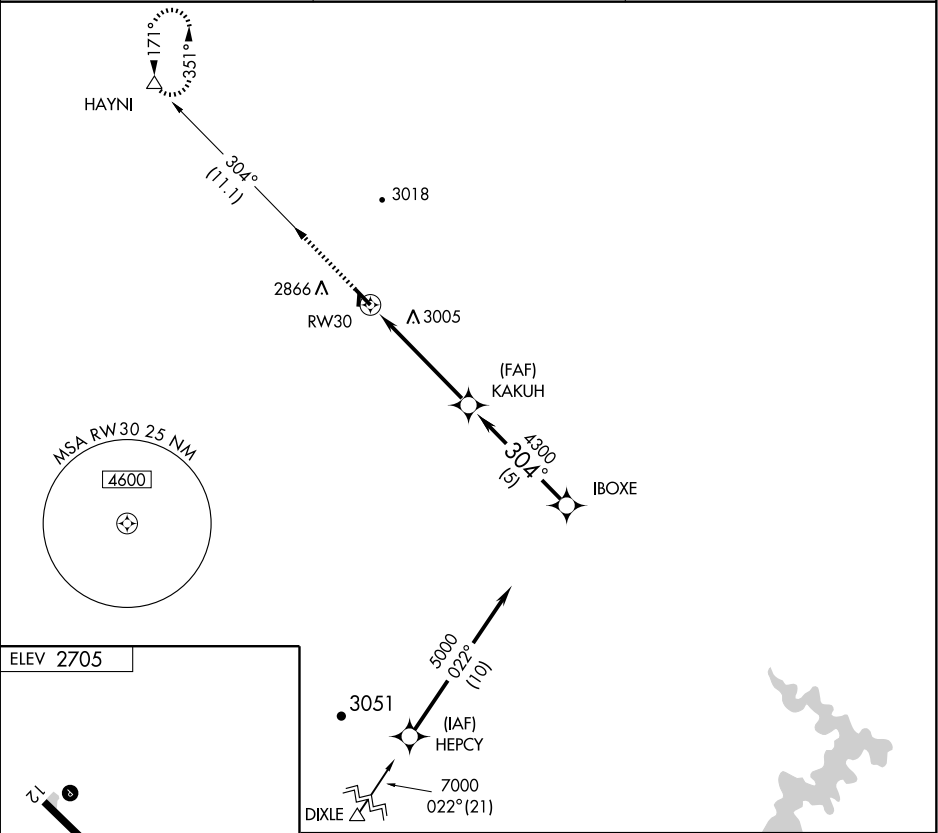
GPS RWY 30

HETTINGER MUNI (HET)


 NA

MISSED APPROACH: Climb to 6000 via 304° course to HAYNI
WP and hold.

ASOS 119.925	MINNEAPOLIS CENTER 124.25 380.3	UNICOM 122.8 (CTAF) 
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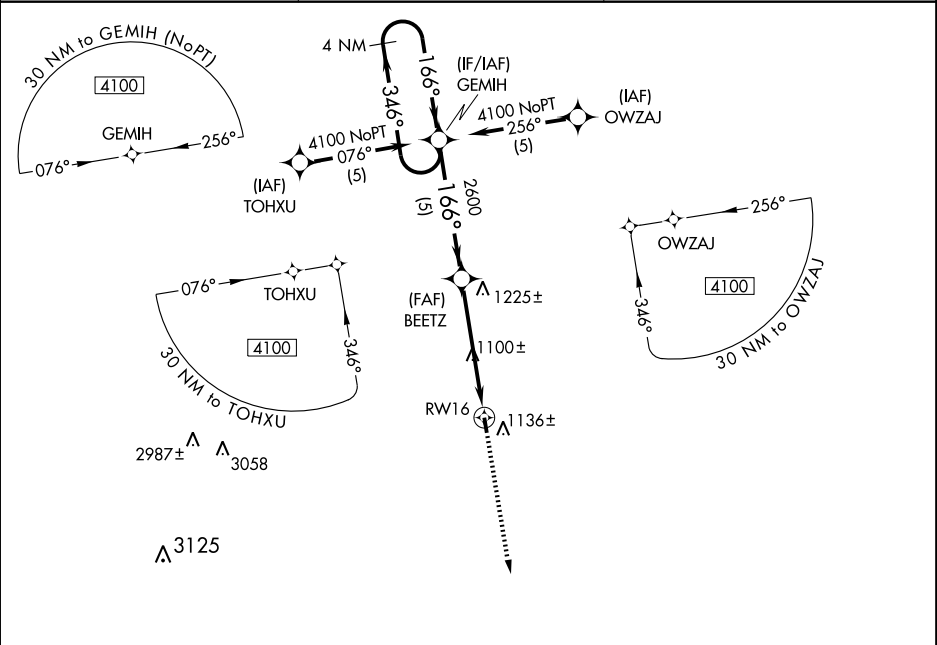
	 HAYNI		 KAKUH		 IBOXE		Procedure Turn NA
	6000 ↑ CRS 304°		RW30		4300		5000
	5NM		5NM				
CATEGORY	A		B		C		D
S-30	3320-1 615 (700-1)		3320-1 615 (700-1)		3320-1 615 (700-1)		3320-2 615 (700-2)
CIRCLING	3320-1 615 (700-1)		3320-1 615 (700-1)		3320-1 615 (700-1)		3400-2 695 (700-2)

APP CRS	Rwy Idg	3300
166°	TDZE	905
	Apt Elev	905

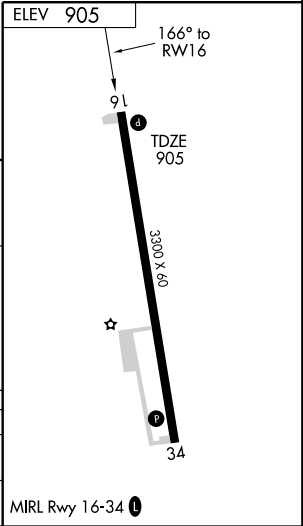
RNAV (GPS) RWY 16
HILLSBORO MUNI (3H4)

NA	DME/DME RNP- 0.3 NA. Use Fargo altimeter setting.	MISSED APPROACH: Climb to 4100 direct IKLAJ WP and hold.
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FARGO ASOS 124.5	FARGO APP CON ★ 120.4 377.15	CTAF 122.9 0
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4 NM Holding Pattern		VGSI and descent angles not coincident.		4100	IKLAJ
GEMIH		BEETZ		RW16	
4100		2600		3.12 ≥ TCH 40	
5 NM		5 NM			
CATEGORY	A	B	C	D	
LNAV MDA	1480-1 575 (600-1)		1480-1½ 575 (600-1½)	NA	
CIRCLING	1520-1 615 (700-1)		1520-1¾ 615 (700-1¾)	NA	

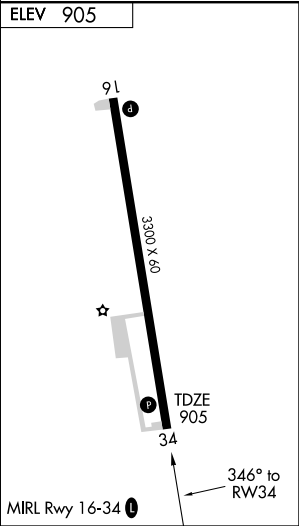
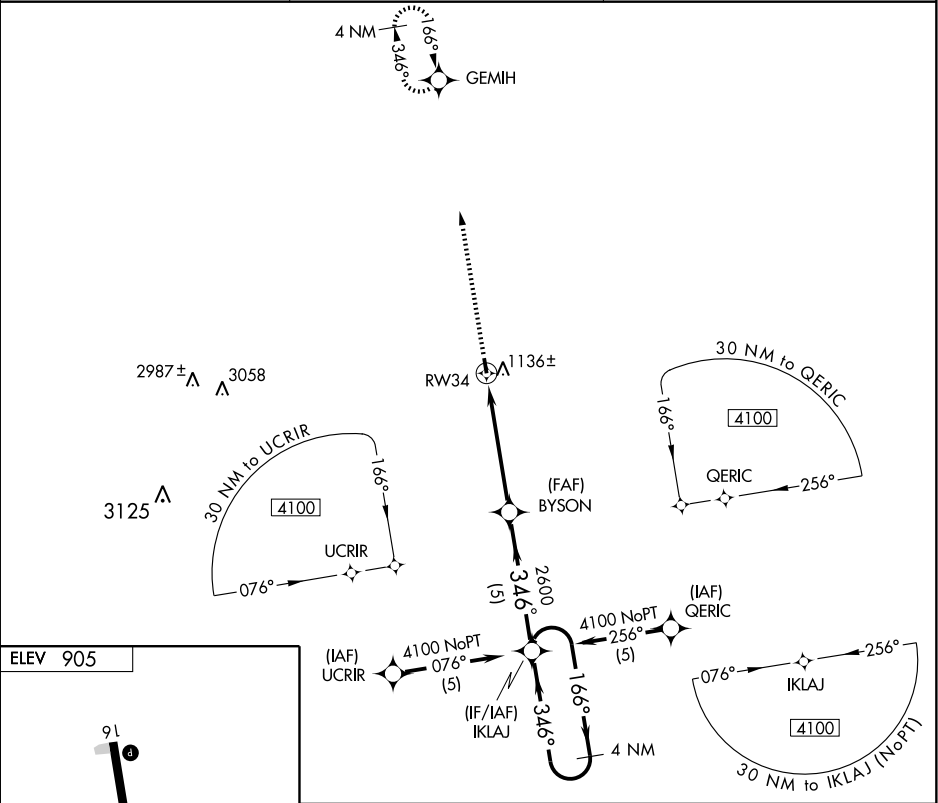


APP CRS	Rwy Idg	3300
346°	TDZE	905
	Apt Elev	905

RNAV (GPS) RWY 34
HILLSBORO MUNI (3H4)

NA	DME/DME RNP- 0.3 NA. Use Fargo altimeter setting.	MISSED APPROACH: Climb to 4100 direct GEMIH WP and hold.
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FARGO ASOS 124.5	FARGO APP CON★ 120.4 377.15	CTAF 122.9
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4100	GEMIH	VGSi and descent angles not coincident.			
		4 NM Holding Pattern			
		BYSON	IKLAJ		
		RW34	2600	4100	
		5 NM		5 NM	
CATEGORY	A	B	C	D	
LNAV MDA	1460-1	555 (600-1)	1460-1½ 555 (600-1½)	NA	
CIRCLING	1520-1	615 (700-1)	1520-1¾ 615 (700-1¾)	NA	

LOC/DME I-JMS	APP CRS	Rwy Idg
109.3	307°	6502
Chan 30		TDZE
		1498
		Apt Elev
		1500

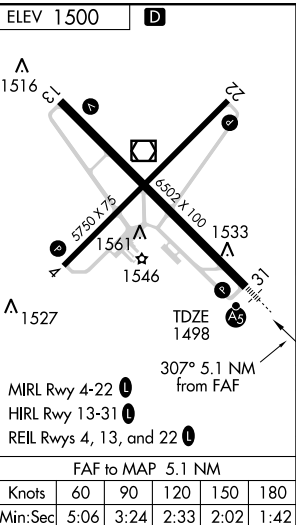
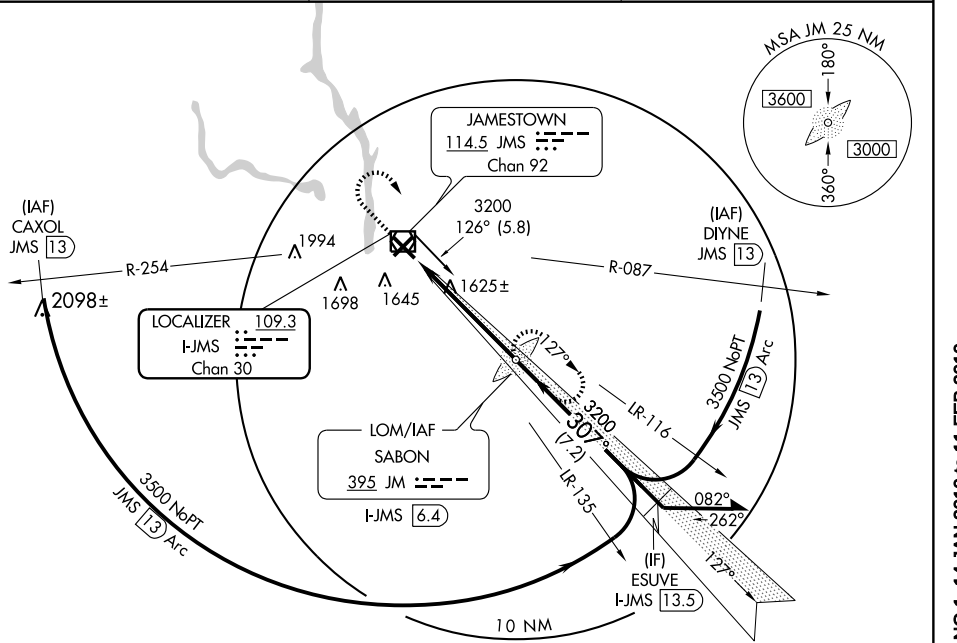
▼

NA

MALSR

MISSED APPROACH: Climb to 3200 then right turn direct SABON LOM/I-JMS 6.4 DME and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
118.425	124.2 270.3	123.0 (CTAF) 0



DME or ADF REQUIRED

3200

↑

JM

LOM

I-JMS 6.4

Remain within 10 NM

Use I-JMS DME when on LOC course

I-JMS 1.3

3198

127°

307°

3200

3200

GS 3.00°

TCH 50

5.1 NM

CATEGORY	A	B	C	D
S-ILS 31	1698-½	200 (200-½)		
S-LOC 31	1880-½	385 (400-½)		1880-¾ 385 (400-¾)
CIRCLING	1960-1	462 (500-1)	1960-1½ 462 (500-1½)	2060-2 562 (600-2)

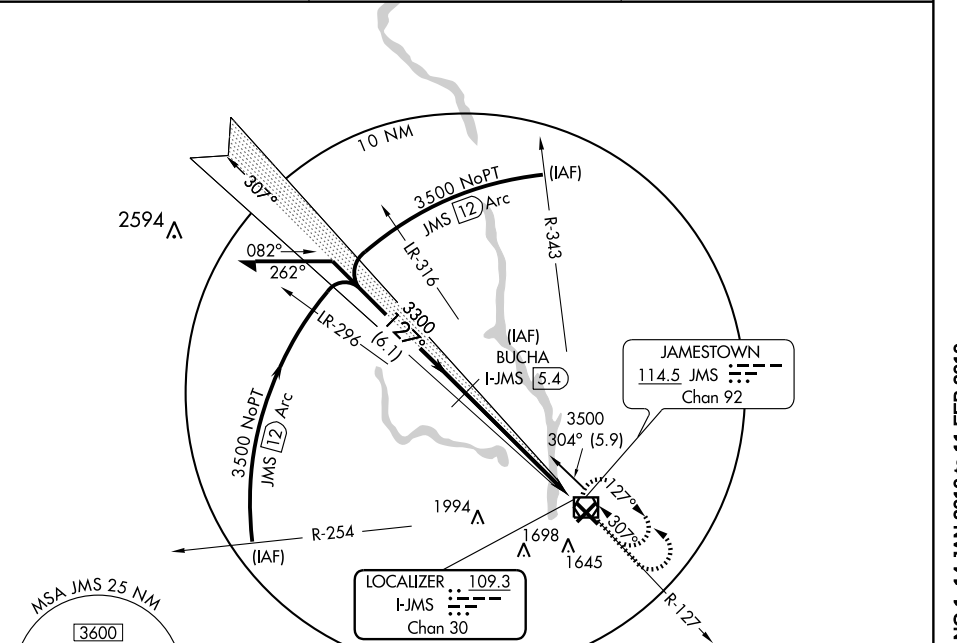
NC-1 14 JAN 2010 to 11 FEB 2010

LOC/DME I-JMS	APP CRS	Rwy Idg	6502
109.3	127°	TDZE	1498
Chan 30		Apt Elev	1498

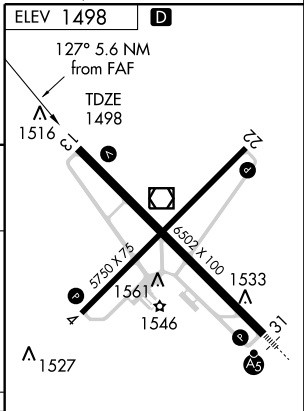
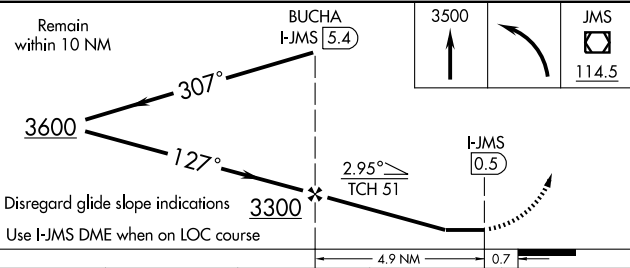
NA

MISSED APPROACH: Climb to 3500 then left turn direct JMS VOR/DME and hold.

ASOS 118.425	MINNEAPOLIS CENTER 124.2 270.3	UNICOM 123.0 (CTAF) 1
-----------------	-----------------------------------	---------------------------------



BACK COURSE



CATEGORY	A	B	C	D
S-13	1860-1	362 (400-1)		1860-1¼ 362 (400-1¼)
CIRCLING	1960-1	462 (500-1)	1960-1½ 462 (500-1½)	2060-2 562 (600-2)

REIL Rwy 4, 13, and 22 **1**
MIRL Rwy 4-22 **1**
HIRL Rwy 13-31 **1**

AL-685 (FAA)

LOM JM <u>395</u>	APP CRS 307°	Rwy Idg 6502 TDZE 1495 Apt Elev 1498
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NDB RWY 31
JAMESTOWN RGNL (JMS)

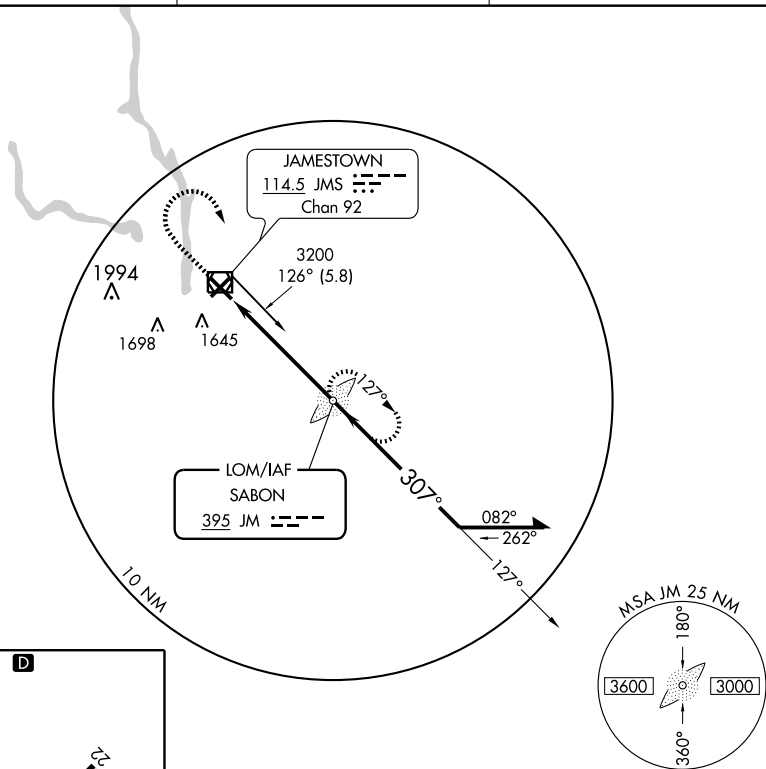


MALSR

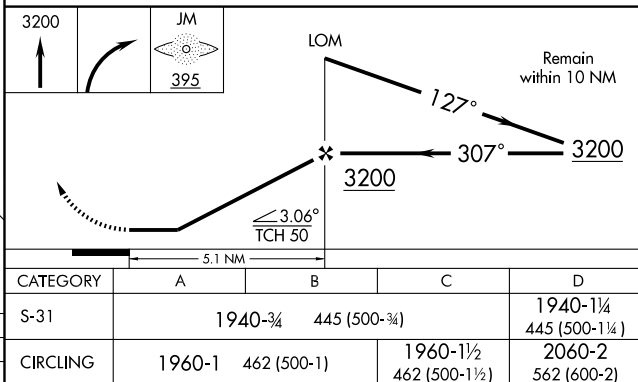


MISSED APPROACH: Climb to 3200 then right turn direct JM LOM and hold.

ASOS 118,425	MINNEAPOLIS CENTER 124.2 270.3	UNICOM 123.0 (CTAF) 0
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FAF to MAP 5.1 NM					
Knots	60	90	120	150	180
Min:Sec	5:06	3:24	2:33	2:02	1:42



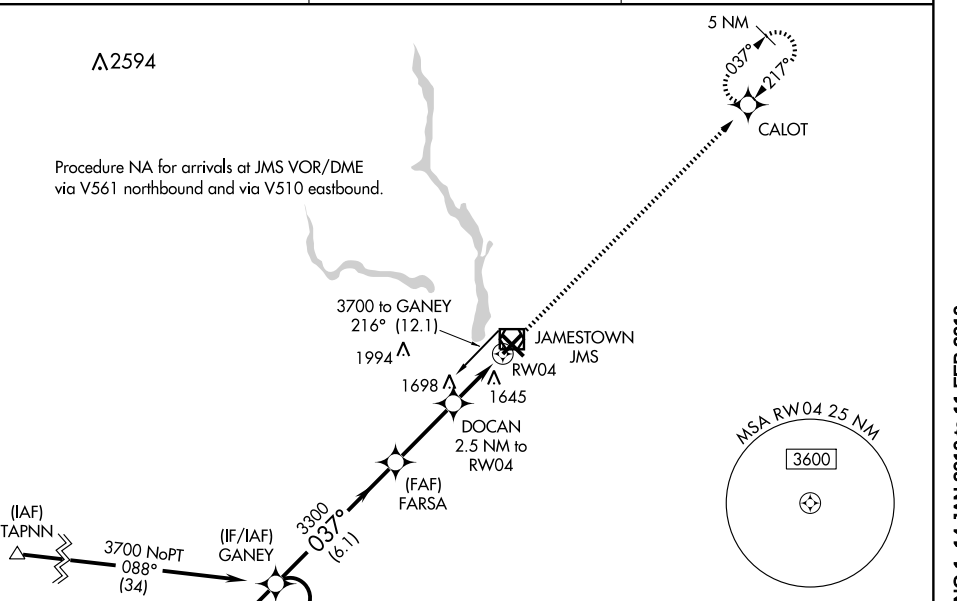
NC-1. 14 JAN 2010 to 11 FEB 2010

WAAS CH 97505 W04A	APP CRS 037°	Rwy Idg TDZE Apt Elev	5750 1496 1500
--	------------------------	-----------------------------	---

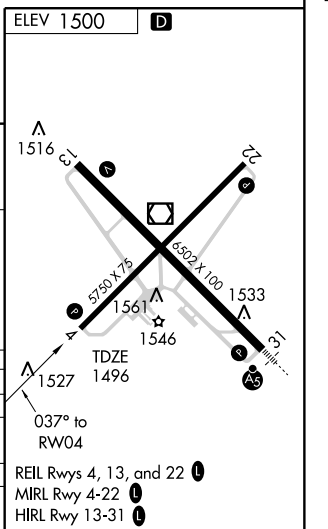
▼ Baro-VNAV NA when using Devils Lake altimeter setting.
▲ For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C (0°F) or above 46°C (114°F).
W DME/DME RNP-0.3 NA. VDP NA when using Devils Lake altimeter setting. If local altimeter setting not received, use Devils Lake altimeter setting and increase all DAs 172 feet and all MDAs 180 feet.

MISSED APPROACH: Climb to 3300 direct CALOT and hold.

ASOS 118.425	MINNEAPOLIS CENTER 124.2 270.3	UNICOM 123.0 (CTAF) 0
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ELEV 1500 D				
VGS1 and RNAV glidepath not coincident				
5 NM Holding Pattern				
3700 ← 217° 037° → 3300				
GS 3.00° TCH 45				
6.1 NM 2.9 NM 1.5 NM				
CATEGORY	A	B	C	D
LPV DA	1746-1 250 (300-1)			
LNAV/VNAV DA	1930-1½ 434 (500-1½)			
LNAV MDA	2000-1	504 (500-1)	2000-1½	504 (500-1½)
CIRCLING	2000-1	500 (500-1)	2000-1½	2060-2
			500 (500-1½)	560 (600-2)



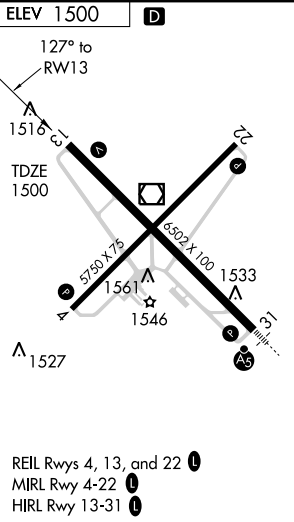
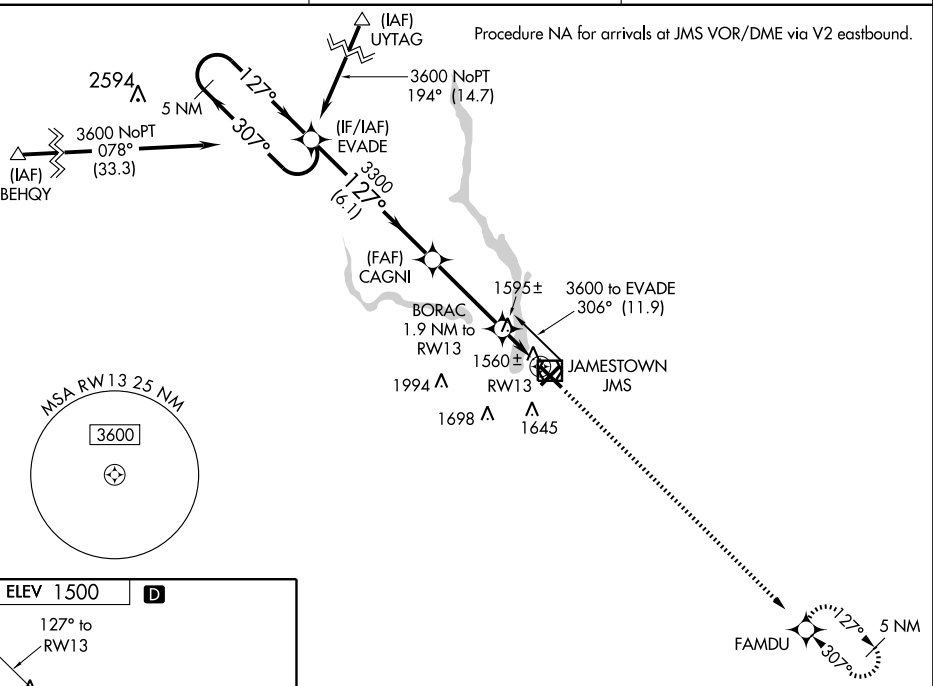
NC-1 14 JAN 2010 to 11 FEB 2010

WAAS	APP CRS	Rwy Idg	6502
CH 65805	127°	TDZE	1500
W13A		Apt Elev	1500

T Baro-VNAV NA when using Devils Lake altimeter setting.
A For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C (0°F) or above 46°C (114°F).
W DME/DME RNP- 0.3 NA. Visibility reduction by helicopters NA.
VDP NA when using Devils Lake altimeter setting.
If local altimeter setting not received, use Devils Lake altimeter setting and increase all DAs 172 feet and all MDAs 180 feet.

MISSED APPROACH: Climb to 3500 direct FAMDU and hold.

ASOS 118.425	MINNEAPOLIS CENTER 124.2 270.3	UNICOM 123.0 (CTAF) 0
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5 NM Holding Pattern		EVADE	CAGNI	BORAC 1.9 NM to RW13	3500	FAMDU
3600		307°	127°	3300	*1 NM to RW13	*LNAV only
GS 3.00° TCH 52				*2160		
		6.1 NM	3.5 NM	0.9 NM	1 NM	
CATEGORY	A	B	C	D		
LPV DA	1787-1		287 (300-1)			
LNAV/VNAV DA	1820-1		320 (400-1)			
LNAV MDA	1860-1		360 (400-1)		1860-1¼ 360 (400-1¼)	
CIRCLING	1960-1		460 (500-1)		1960-1½ 460 (500-1½)	
					2060-2 560 (600-2)	

REIL Rwy 4, 13, and 22 **0**
MIRL Rwy 4-22 **0**
HIRL Rwy 13-31 **0**

WAAS CH 70505 W22A	APP CRS 217°	Rwy Idg TDZE Apt Elev	5750 1500 1500
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RNAV (GPS) RWY 22

JAMESTOWN RGNL (JMS)

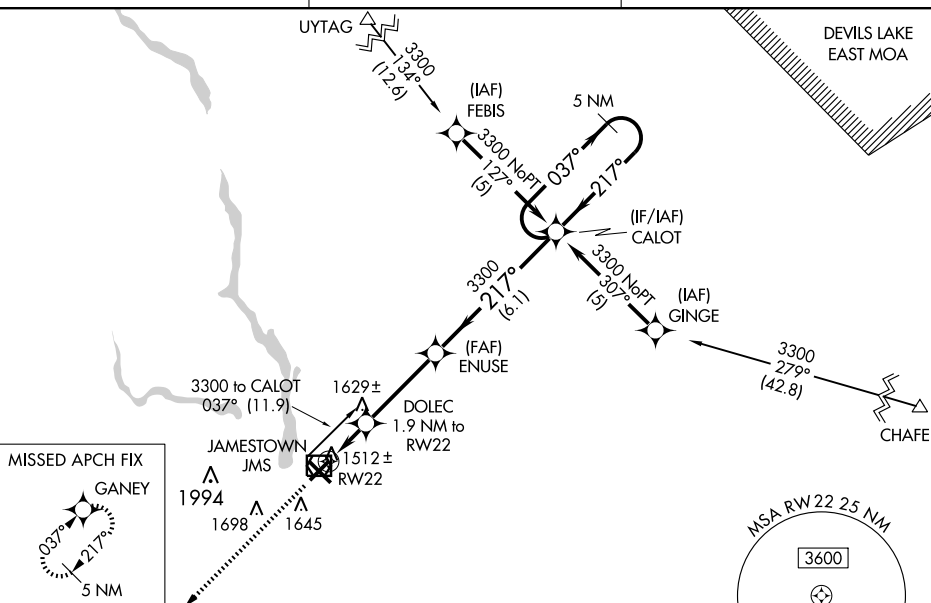
- T** Baro-VNAV NA when using Devils Lake altimeter setting.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C (0°F) or above 46°C (114°F).
- W** DME/DME RNP-0.3 NA. VDP NA when using Devils Lake altimeter setting. If local altimeter setting not received, use Devils Lake altimeter setting and increase all DAs 172 feet and all MDAs 180 feet.

MISSED APPROACH: Climb to 3700 direct GANEY and hold.

ASOS
118.425

MINNEAPOLIS CENTER
124.2 270.3

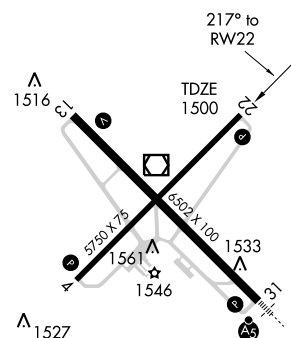
UNICOM
123.0 (CTAF) 0



ELEV 1500

D

Procedure NA for arrivals at JMS VOR/DME on airway radials 034 CW 087.



REIL Rwy 4, 13, and 22

MIRL Rwy 4-22

HIRL Rwy 13-31

3700		GANEY		VGSI and RNAV glidepath not coincident.		5 NM Holding Pattern	
↑		★		DOLEC 1.9 NM to RW22		ENUSE	
*LNAV only		*0.9 NM to RW22		3300		037°	
RW22		2140*		217°		217°	
0.9		1 NM		3.5 NM		6.1 NM	
CATEGORY	A		B		C		D
LPV DA			1750-1		250 (300-1)		
LNAV/VNAV DA			1772-1		272 (300-1)		
LNAV MDA			1800-1		300 (300-1)		
CIRCLING	1960-1		460 (500-1)		1960-1½ 460 (500-1½)		2060-2 560 (600-2)

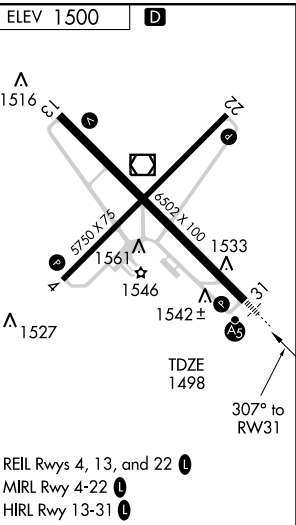
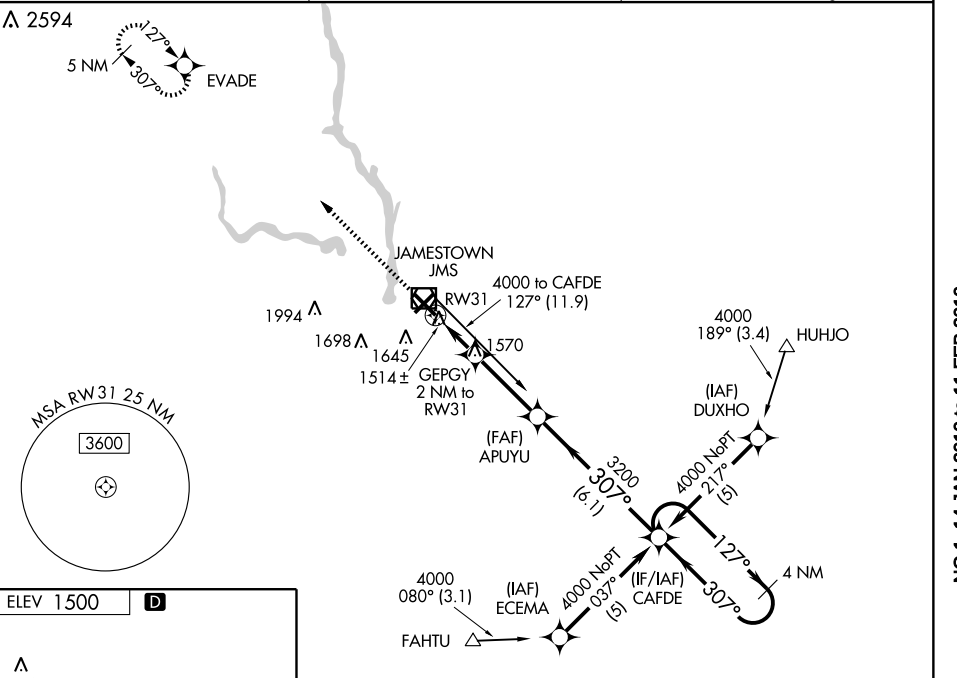
WAAS CH 66014 W31A	APP CRS 307°	Rwy Idg 6502 TDZE 1498 Apt Elev 1500
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T For inoperative MALSR, increase LNAV Cat D visibility to 1¼ mile. Baro-VNAV NA when using Devils Lake altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -18°C (0°F) or above 46°C (114°F). DME/DME RNP-0.3 NA. When local altimeter setting not received, use Devils Lake altimeter setting and increase all DA 172 feet, all MDA 180 feet, increase LPV all Cats visibility ¼ mile, LNAV/VNAV all Cats visibility ½ mile, LNAV Cat C visibility ½ mile, Cat D visibility ¼ mile, Circling Cats C and D visibility ¼ mile. VDP NA with Devils Lake altimeter setting. For inoperative MALSR when using Devils Lake altimeter setting increase LPV all Cats visibility to 1¼ mile. Inoperative table does not apply to LNAV Cats C and D when using Devils Lake altimeter setting.

MALSR

MISSED APPROACH:
Climb to 3600
direct EVADE
and hold.

ASOS 118.425	MINNEAPOLIS CENTER 124.2 270.3	UNICOM 123.0 (CTAF) 0
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3600 ↑	EVADE ✦	*LNAV only.	4 NM Holding Pattern		
CATEGORY	A		B	C	D
LPV DA	1698-½		200 (200-½)		
LNAV/ VNAV DA	1836-¾		338 (400-¾)		
LNAV MDA	1880-½		382 (400-½)	1880-1 382 (400-1)	
CIRCLING	1960-1	460 (500-1)	1960-1½ 460 (500-1½)	2060-2 560 (600-2)	

NC-1 14 JAN 2010 to 11 FEB 2010

VOR/DME JMS 114.5 Chan 92	APP CRS 117°	Rwy Idg 6502 TDZE 1500 Apt Elev 1500
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VOR RWY 13
JAMESTOWN RGNL (JMS)

T If local altimeter setting not received, procedure NA.
 Visibility reduction by helicopters NA.

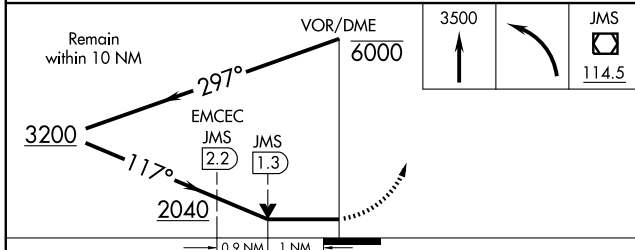
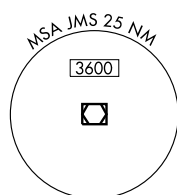
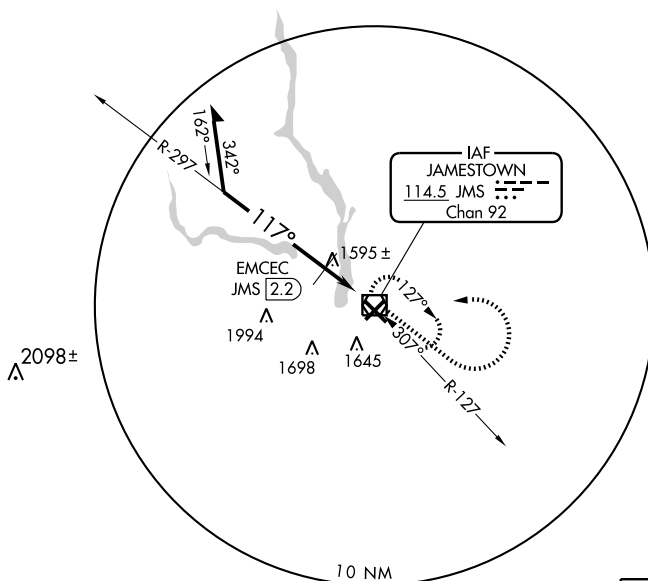
MISSED APPROACH: Climb to 3500 then left turn direct JMS VOR/DME and hold.

ASOS
118.425

MINNEAPOLIS CENTER
124.2 270.3

UNICOM
123.0 (CTAF) **L**

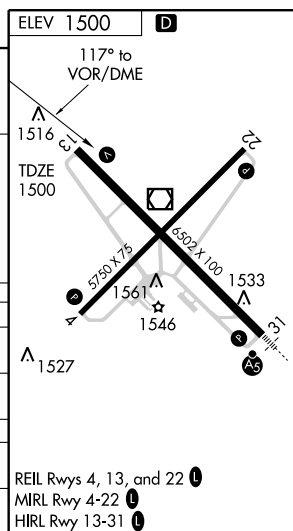
Procedure NA for arrivals at JMS VOR/DME via V561 northbound.

DEVILS LAKE
EAST MOA

CATEGORY	A	B	C	D
S-13	2040-1	540 (600-1)	2040-1½ 540 (600-1½)	2040-1¾ 540 (600-1¾)
CIRCLING	2040-1	540 (600-1)	2040-1½ 540 (600-1½)	2060-2 560 (600-2)

EMCEC FIX MINIMUMS

S-13	1860-1 360 (400-1)		1860-1¼ 360 (400-1¼)
CIRCLING	1960-1 460 (500-1)	1960-1½ 460 (500-1½)	2060-2 560 (600-2)



VOR/DME JMS 114.5 Chan 92	APP CRS 311°	Rwy Idg TDZE Apt Elev	6502 1498 1500
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VOR RWY 31

JAMESTOWN RGNL (JMS)

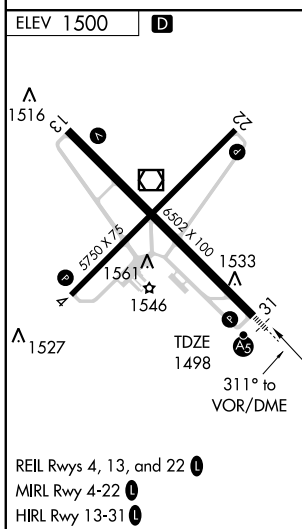
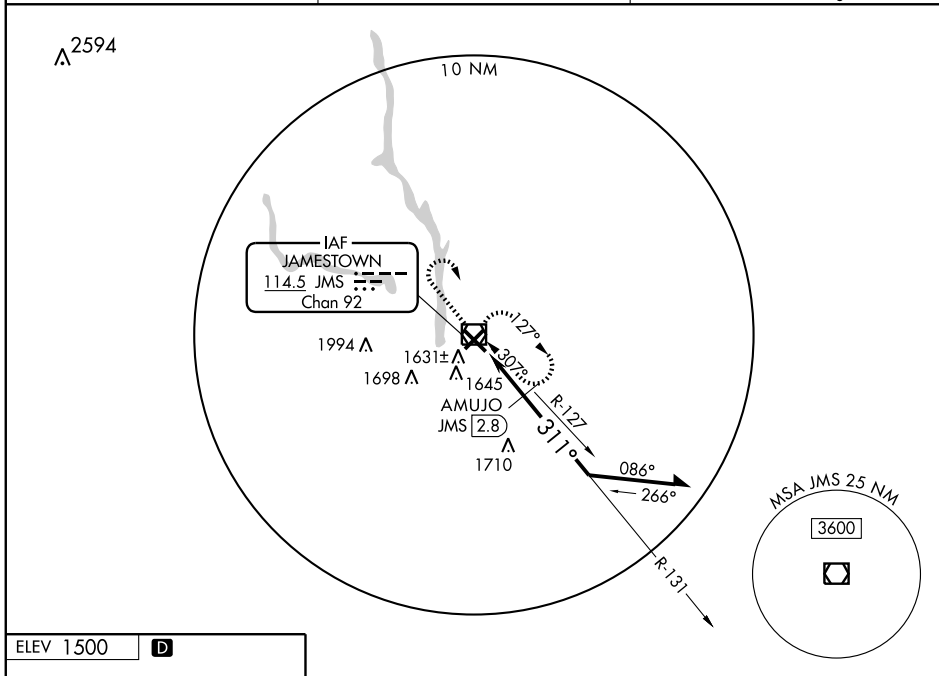
▼ For inoperative MALS, increase AMUJO FIX minimums S-31 Cat D visibility to 1¼ mile.
▲ VDP NA with Devils Lake altimeter setting. When local altimeter setting not received, use Devils Lake altimeter setting and increase all MDA 180 feet, increase S-31 Cats C and D visibility ¾ mile, Circling Cats C and D visibility ½ mile, increase AMUJO FIX minimums S-31 Cat C and Circling Cats C and D visibility ¼ mile.

MALS



MISSED APPROACH:
 Climb to 3100 then
 right turn direct JMS
 VOR/DME and hold.

ASOS 118.425	MINNEAPOLIS CENTER 124.2 270.3	UNICOM 123.0 (CTAF) 0
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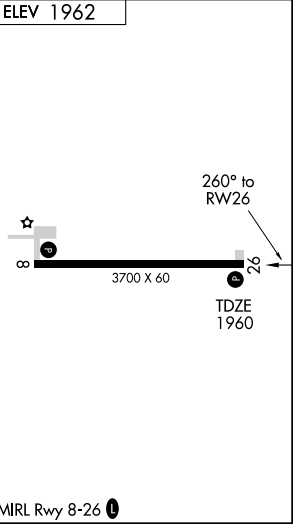
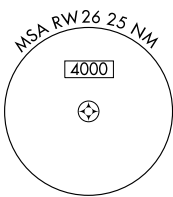
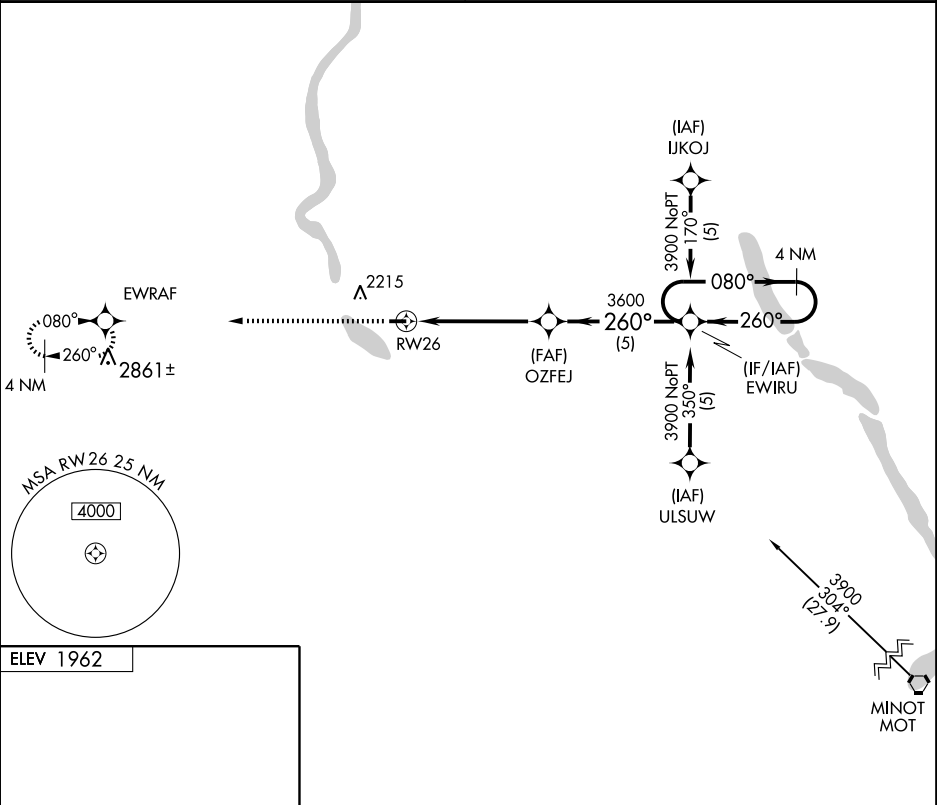
	3100	JMS 114.5	VOR/DME	Remain within 10 NM
			131°	3100
			311°	2060
			1.1 NM	1 NM
				*2240 when using Devils Lake altimeter setting.
CATEGORY	A	B	C	D
S-31	2060-½	562 (600-½)	2060-1 562 (600-1)	2060-1¼ 562 (600-1¼)
CIRCLING	2060-1	560 (600-1)	2060-1½ 560 (600-1½)	2060-2 560 (600-2)
AMUJO FIX MINIMUMS				
S-31	1900-½	402 (400-½)	1900-¾ 402 (400-¾)	1900-1 402 (400-1)
CIRCLING	1960-1	460 (500-1)	1960-1½ 460 (500-1½)	2060-2 560 (600-2)

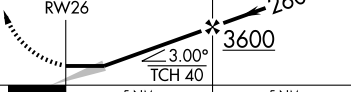
APP CRS	Rwy Idg	3700
260°	TDZE	1960
	Apt Elev	1962

RNAV (GPS) RWY 26

KENMARE MUNI (7K5)

▲ NA	Use Minot Intl altimeter setting. GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.	MISSED APPROACH: Climb to 3900 direct EWRAF WP and hold.
MINOT APP CON ★ 119.6 363.8		CTAF 122.8 !



3900 ↑	EWRAF 	EWIRU 4 NM Holding Pattern			
					
CATEGORY	A	B	C	D	
RNAV MDA	2420-1	460 (500-1)	NA		
CIRCLING	2580-1 618 (700-1)	2640-1 678 (700-1)	NA		

▲ NA

ASR

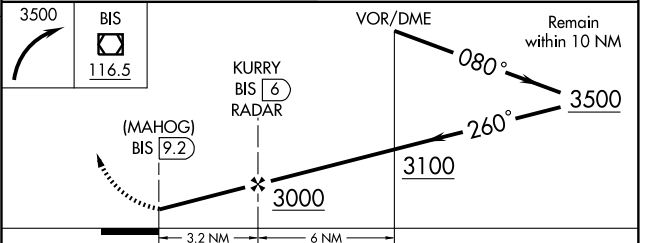
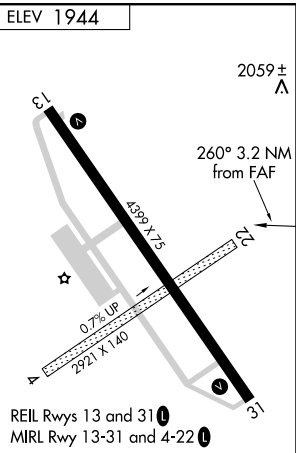
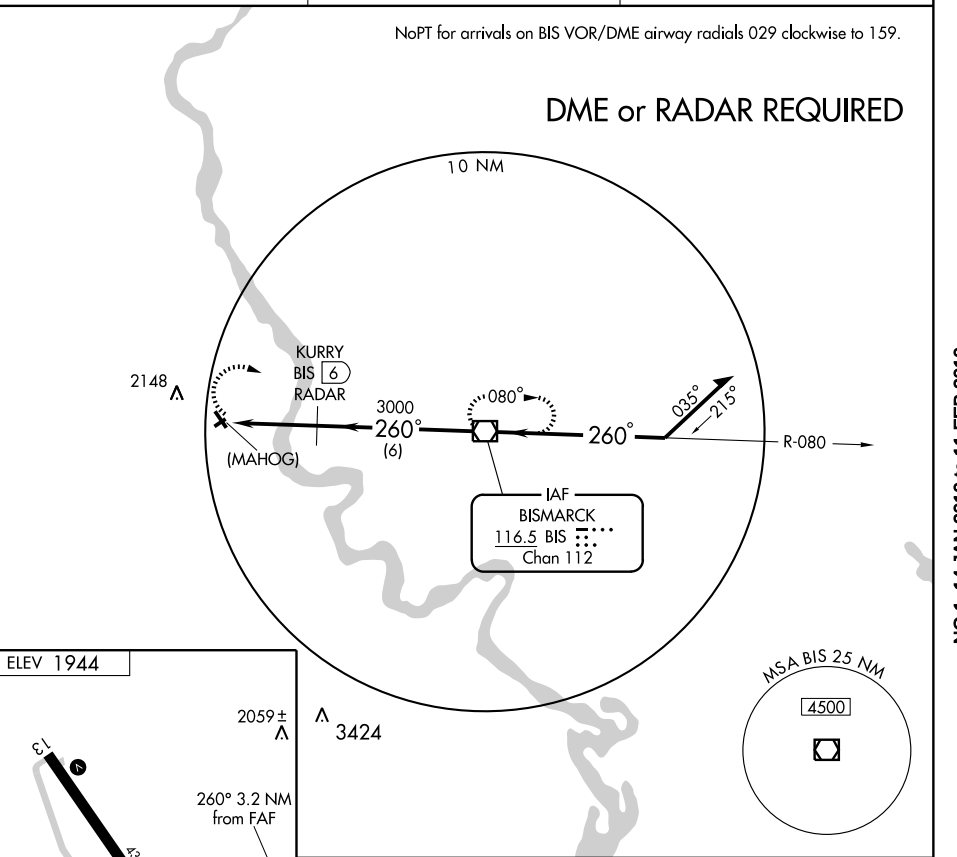
Use Bismarck altimeter setting.

MISSED APPROACH: Climbing right turn to 3500 direct BIS VOR/DME and hold.

AWOS-3 118.225	BISMARCK APP CON ★ 126.3 298.9	UNICOM 122.8 (CTAF) 0
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NoPT for arrivals on BIS VOR/DME airway radials 029 clockwise to 159.

DME or RADAR REQUIRED



FAF to MAP 3.2 NM						CATEGORY	A	B	C	D
Knots	60	90	120	150	180	CIRCLING	2420-1 478 (500-1)	2500-1 558 (600-1)	2500-1½ 558 (600-1½)	2500-2 558 (600-2)
Min:Sec	3:12	2:08	1:36	1:17	1:04					

NC-1 14 JAN 2010 to 11 FEB 2010

AIRPORT DIAGRAM

AFD-5013 [USAF]

MINOT, NORTH DAKOTA

ATIS ★ 278.8
MINOT TOWER ★
120.65 253.5
GND CON
134.0 275.8
CLNC DEL
326.2

JULY 2007
ANNUAL RATE OF CHANGE
0.2° W

VAR 10.0° E

FIELD
ELEV
1667

115.1°

13,197 x 300

295.1°

1000
x 300

ELEV
1648

Rwy 11-29
PCN 56 R/C/W/T

CONTROL
TOWER

HOT CARGO
PAD

1809

1728 Lighted poles

FIRE
STATION

BASE
OPS

1769

NC-1, 14 JAN 2010 to 11 FEB 2010

AIRPORT DIAGRAM

MINOT, NORTH DAKOTA

TACAN MIB
Chan 96

APCH CR
122°

Rwy Idg	13,197
TDZE	1667
Arpt Elev	1667

AL-5013 [USAF]

MINOT AFB (KMIB)

* When ALS inop, increase RVR to 24 and vis to ½ mile.



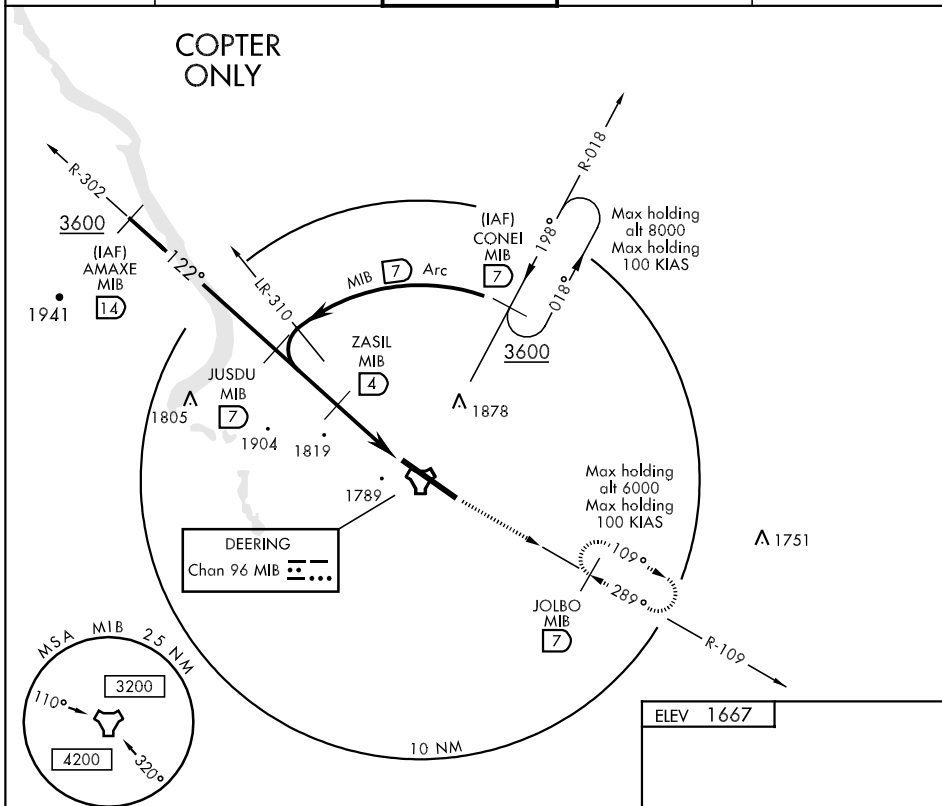
MISSED APPROACH: Climb to 3600 via MIB R-109 direct JOLBO MIB 7 DME and hold.

ATIS ★
278.8

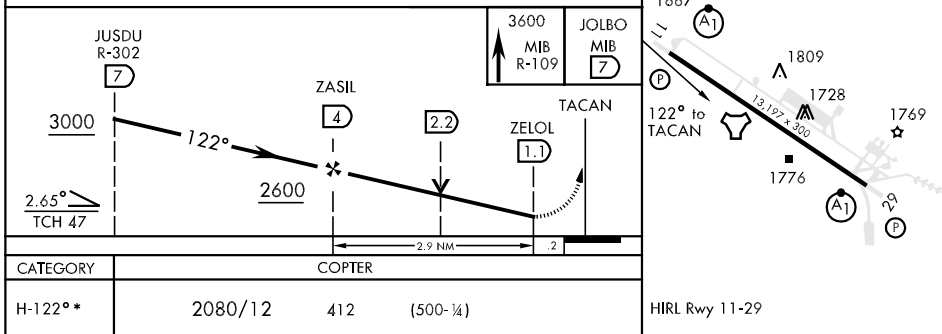
MINOT APP CON
119.6 363.8

MINOT TOWER ★
120.65 253.5

GND CON
134.0 275.8

CLNC DEL
326.2

EMERG SAFE ALT 100 NM 4800



TACAN MIB Chan 96	APCH CRS 289°	Rwy ldg 13,197 TDZE 1644 Arpt Elev 1667
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AL-5013 [USAF]

MINOT AFB (KMIB)

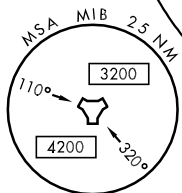
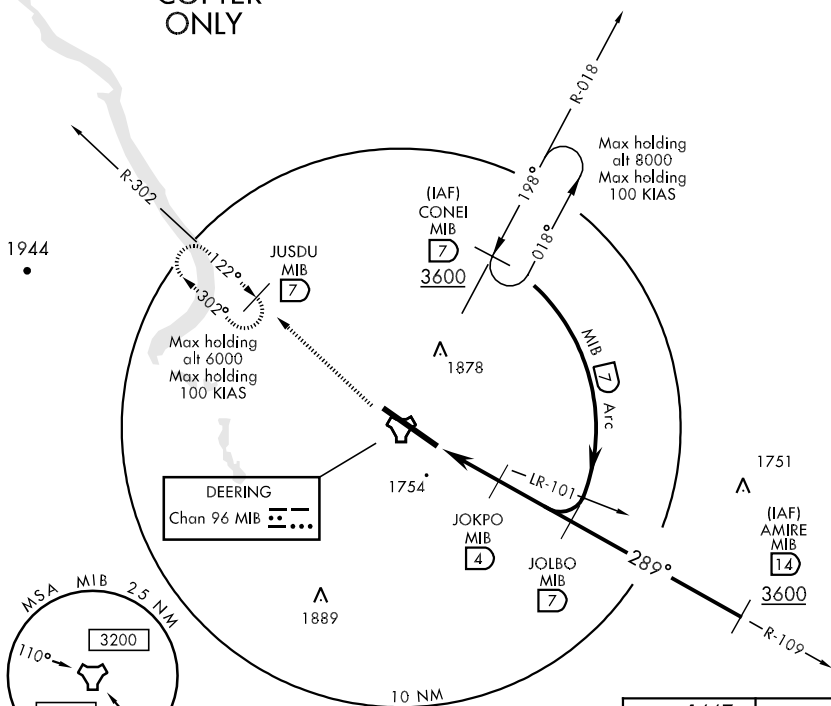
* When ALS inop, increase RVR to 24 and vis to ½ mile.



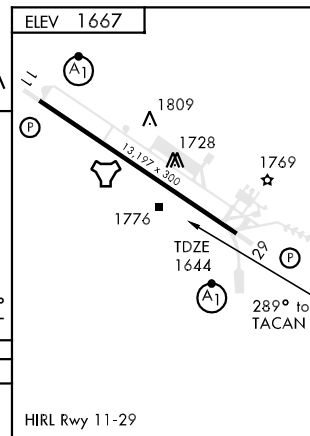
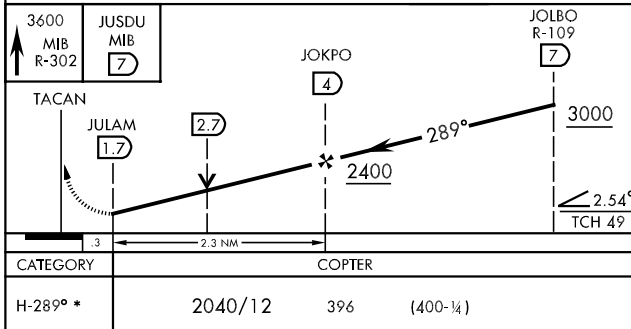
MISSED APPROACH: Climb to 3600 via MIB R-302 direct JUSDU MIB 7 DME and hold.

ATIS ★ 278.8	MINOT APP CON 119.6 363.8	MINOT TOWER ★ 120.65 253.5	GND CON 134.0 275.8	CLNC DEL 326.2
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COPTER ONLY



EMERG SAFE ALT 100 NM 4800



LOC I-MJW 109.9	APCH CRS 115°	Rwy Idg 13,197 TDZE 1667 Arpt Elev 1667	JAL-5013 [USAF]	MINOT AFB (KMIB)
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* When ALS inop, increase RVR to 40 and vis to $\frac{3}{4}$ mile.

** When ALS inop, increase CAT C RVR to 50 and vis to 1 mile,
CAT D RVR to 60 and vis to $1\frac{1}{4}$ miles, CAT E vis to $1\frac{1}{2}$ miles.

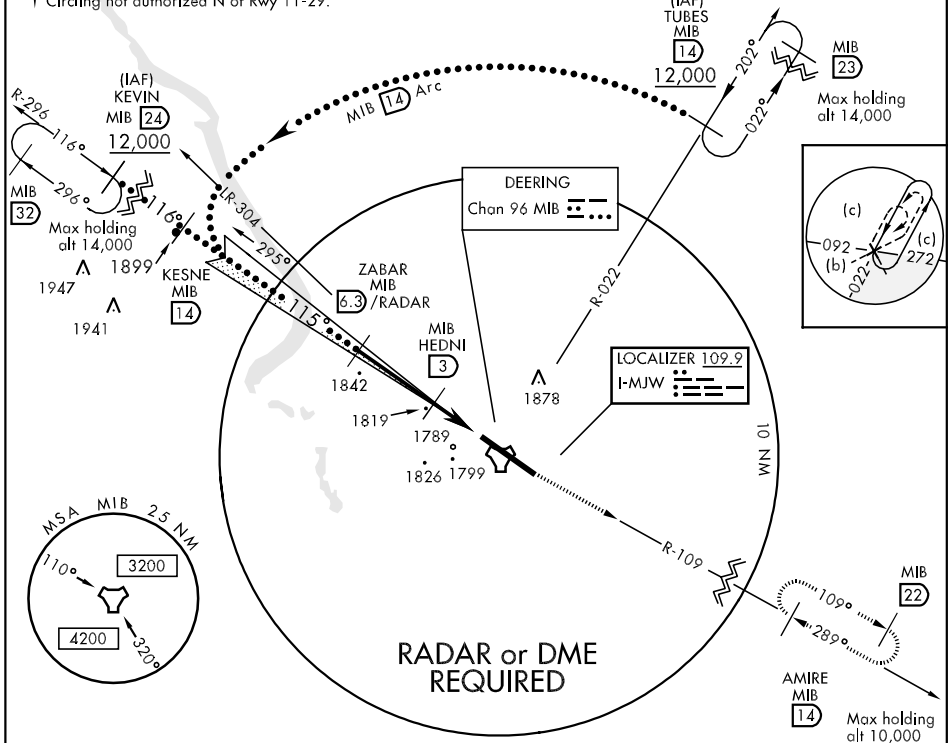
ALS-1



MISSED APPROACH: Climb to 4000 via MIB R-109
direct AMIRE and hold.

ATIS ★ 278.8	MINOT APP CON 119.6 363.8	MINOT TOWER ★ 120.65 253.5	GND CON 134.0 275.8	CLNC DEL 326.2
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† Circling not authorized N of Rwy 11-29.



EMERG SAFE ALT 100 NM 4800

KESNE R-296 14			4000 MIB R-109			AMIRE MIB 14			ELEV 1667		
5000			115°			3200			2280		
GS 2.50° TCH 48			ZABAR 6.3 /RADAR			HEDNI 3			FIMPU 1.4		
			4.9 NM			TACAN			1769		
CATEGORY			C			D			E		
S-ILS 11 *			1867/24			200			(200-1/2)		
S-LOC 11 **			2060/40			393			2060/50		
						(400-3/4)			393		
									(400-1)		
CIRCLING †			2120-1 1/2			2220-2			553		
			453 (500-1 1/2)						(600-2)		

LOC I-MIB
109.9

APCH CR
295°

Rwy Idg	13,197
TDZE	1644
Arpt Elev	1667

JAL-5013 [USAF]

MINOT AFB (KMIB)

* When ALS inop, increase RVR to 40 and vis to $\frac{3}{4}$ mile.

**** When ALS inop, increase CAT C RVR to 50 and vis to 1 mile, CAT DE RVR to 60 and vis to 1 1/4 miles.**

ALSF-1

MISSED APPROACH: Climb to 4000 via MIB R-302 direct AMAXE and hold.

ATIS ★
278.8

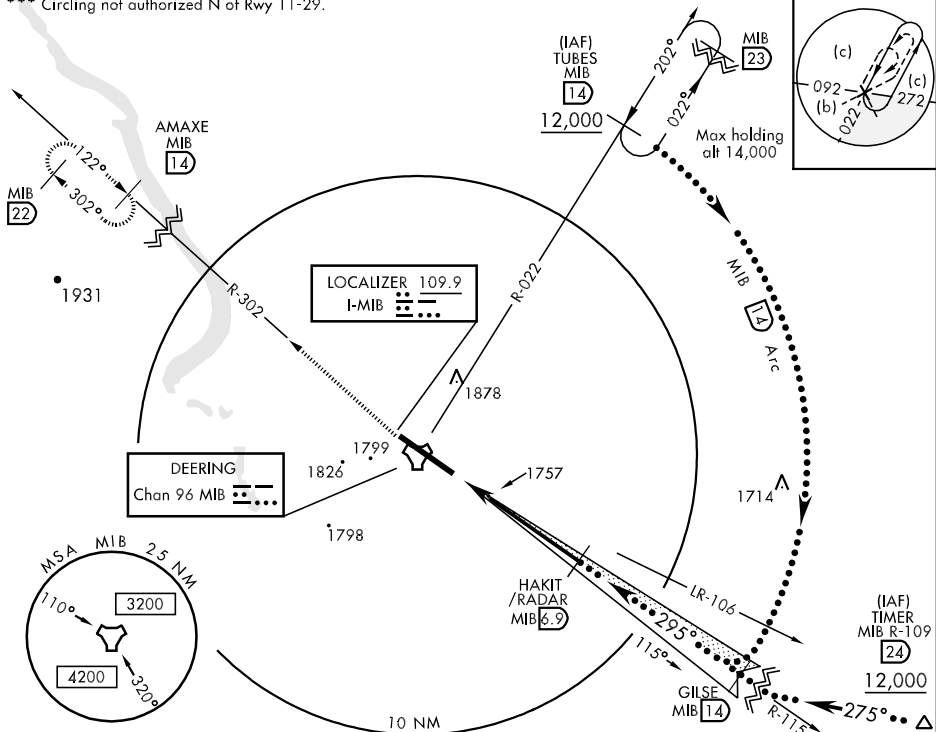
MINOT APP CON
119.6 363.8

MINOT TOWER ★
120.65 253.5

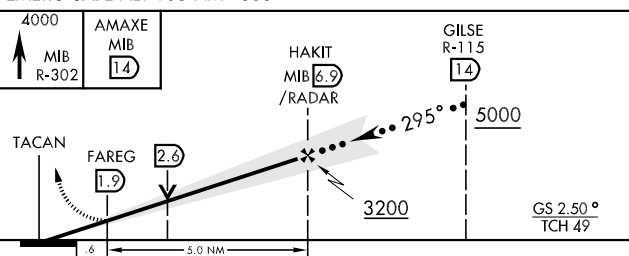
GND CON
134.0 275.8

CLNC DEL
326.2

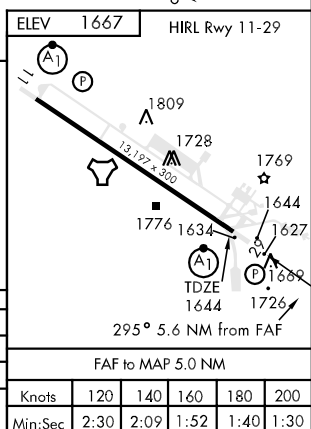
*** Circling not authorized N of Rwy 11-29.



EMERG SAFE ALT 100 NM 4800



CATEGORY	C	D	E
S-ILS 29*	1844/24	200	(200-½)
S-LOC 29**	2020/40	376	(400-¾)
CIRCLING***	2120-1½ 453 (500-1½)	2220-2	553 (600-2)



MINOT, NORTH DAKOTA

48° 25' N-101° 21' W

MINOT AFB (KMIB)

Amdt 1 07354

NC-1, 14 JAN 2010 to 11 FEB 2010

TACAN MIB
Chan 96

APCH CR
122°

Rwy Idg	13,197
TDZE	1667
Arpt Elev	1667

JAL-5013 [USAF]

MINOT AFB (KMIB)

* When ALS inop, increase CAT CD RVR to 60 and vis to 1¼ miles, CAT E vis to 1½ miles.

** Circling not authorized N of Rwy 11-29.

ALSF-1

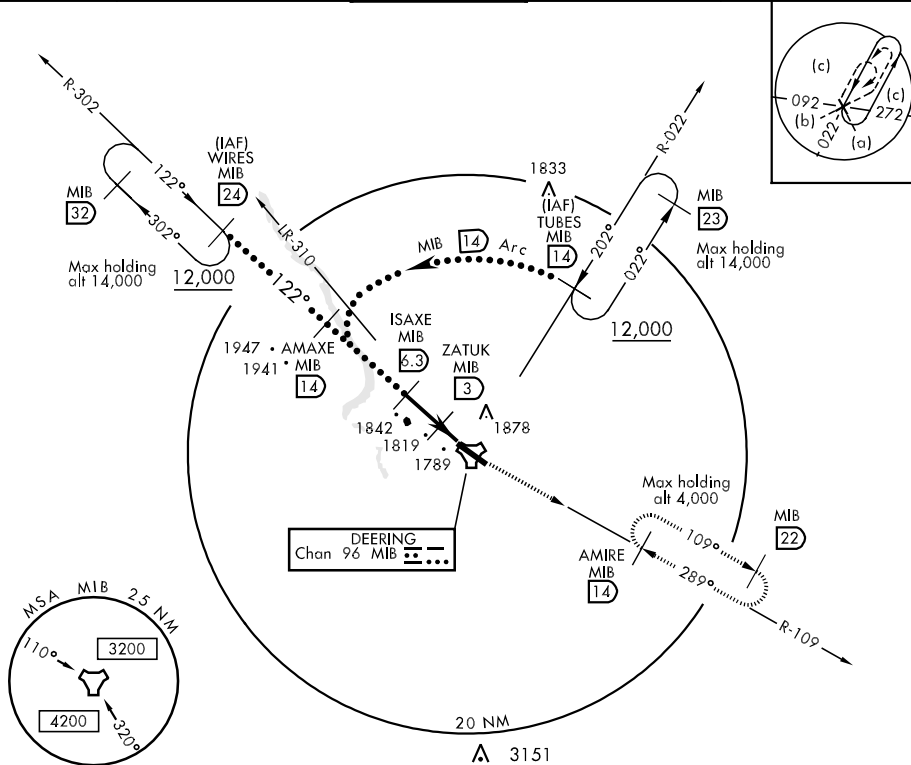
MISSED APPROACH: Climb to 4000 via MIB R-109 direct AMIRE and hold.

ATIS ★
278.8

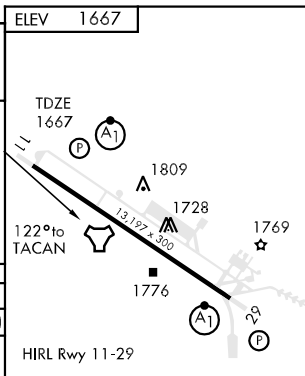
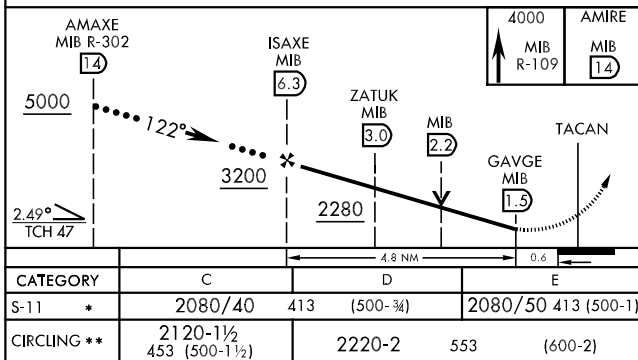
MINOT APP CON
119.6 363.8

MINOT TOWER ★
120.65 253.5

GND CON
134.0 275.8

CLNC DEL
326.2

EMERG SAFE ALT 100 NM 4800



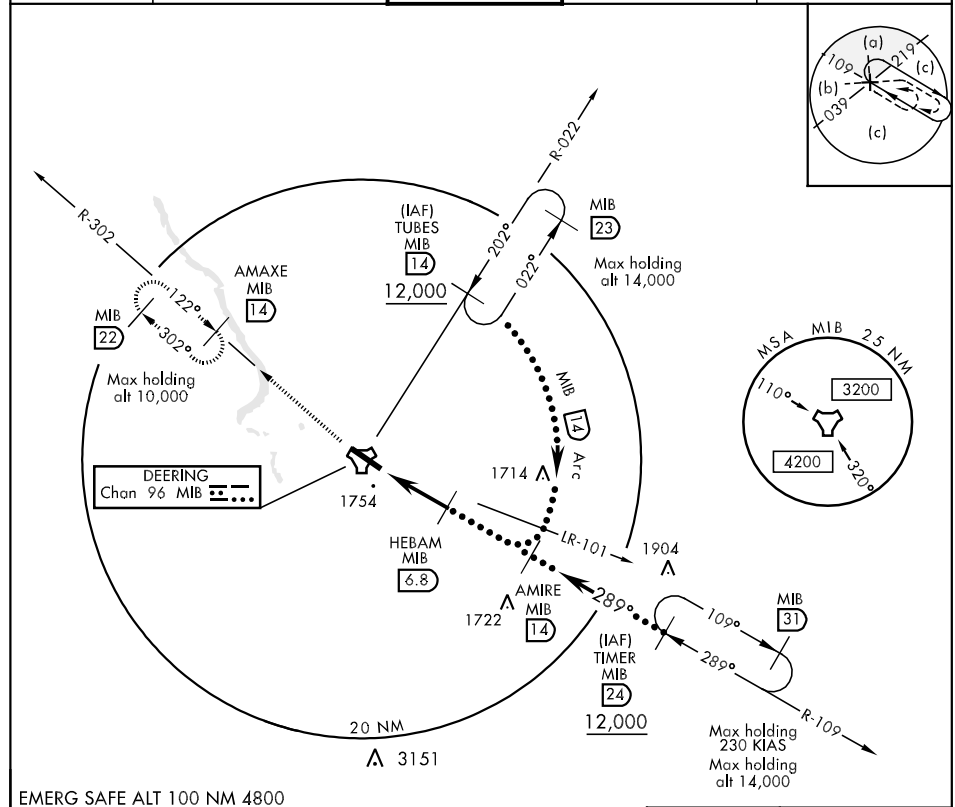
MINOT, NORTH DAKOTA

48° 25' N-101° 22' W

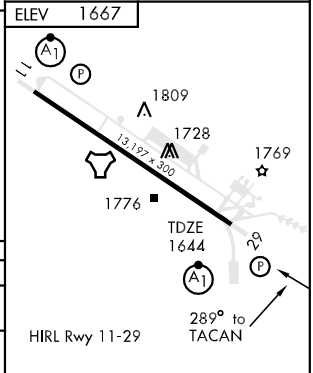
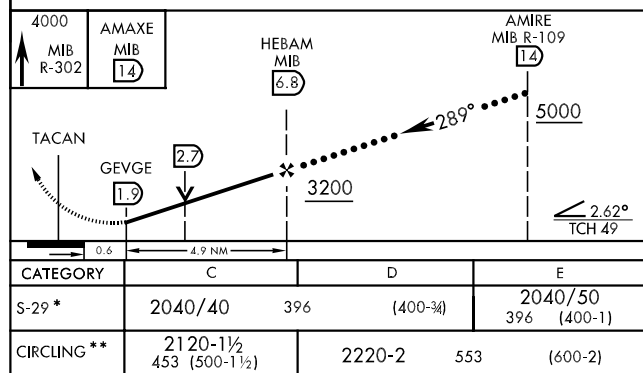
MINOT AFB (KMIB)

Amdt 1 07354

TACAN Chan 96	MIB 289°	APCH CRS 289°	Rwy Idg 13,197 TDZE 1644 Arprt Elev 1667	JAL-5013 [USAF]	MINOT AFB (KMIB)
* When ALS inop, increase CAT C RVR to 50 and vis to 1 mile, CAT D RVR to 60 and vis to 1¼ miles, CAT E vis to 1½ miles. ** Circling not authorized N of Rwy 11-29.				ALSF-1 	MISSED APPROACH: Climb to 4000 via MIB R-302 direct AMAXE and hold.
ATIS ★ 278.8	MINOT APP CON 119.6 363.8		MINOT TOWER ★ 120.65 253.5	GND CON 134.0 275.8	CLNC DEL 326.2



EMERG SAFE ALT 100 NM 4800



LOC I-MJW 109.9	APCH CRS 115°	Rwy Idg 13,197 TDZE 1667 Arpt Elev 1667
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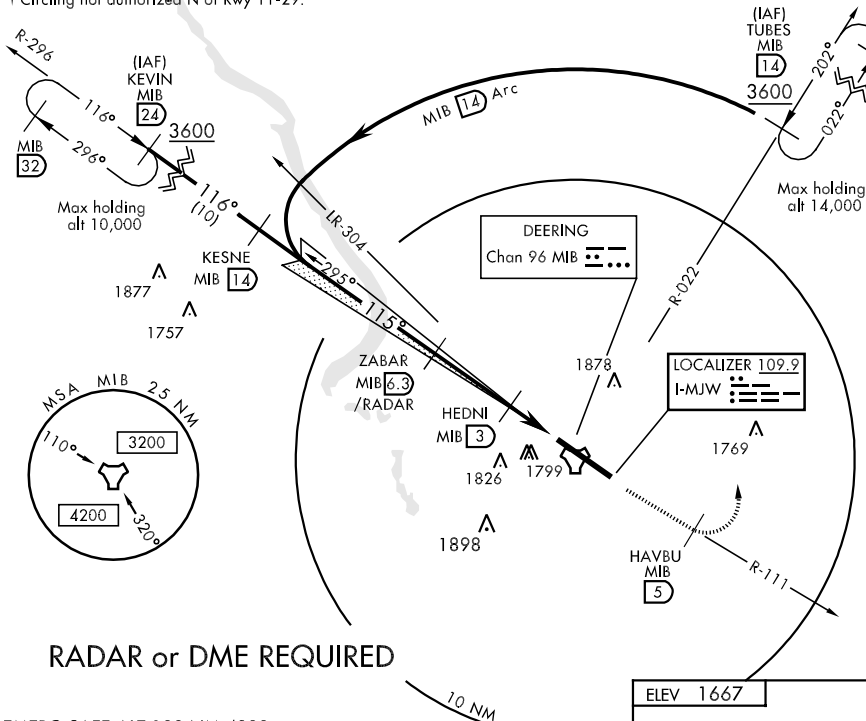
AL-5013 [USAF]

MINOT AFB (KMIB)

* When ALS inop, increase RVR to 40 and vis to $\frac{3}{4}$ mile. ** When ALS inop, increase CAT ABC RVR to 50 and vis to 1 mile, CAT D RVR to 60 and vis to $1\frac{1}{4}$ miles, CAT E vis to $1\frac{1}{2}$ miles.	ALSF-1 	MISSED APPROACH: Climb to 4000 via MIB R-111 at 5 DME turn left direct TUBES and hold.
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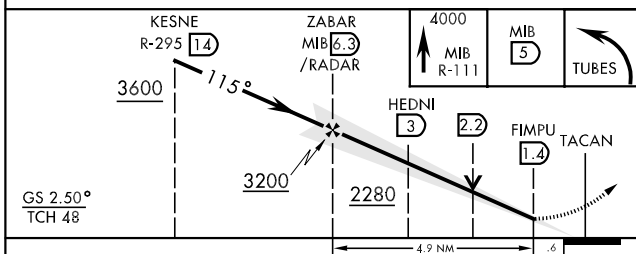
ATIS ★ 278.8	MINOT APP CON 119.6 363.8	MINOT TOWER ★ 120.65 253.5	GND CON 134.0 275.8	CLNC DEL 326.2
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† Circling not authorized N of Rwy 11-29.

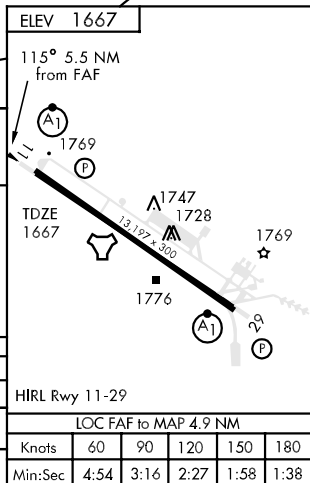


RADAR or DME REQUIRED

EMERG SAFE ALT 100 NM 4800



CATEGORY	A	B	C	D	E
S-ILS 11 *	1867/24		200	(200- $\frac{1}{2}$)	
S-LOC 11 **	2060/24	393 (400- $\frac{1}{2}$)	2060/40	393 (400- $\frac{3}{4}$)	2060/50 393 (400-1)
CIRCLING †	2120-1	453 (500-1)	2120- $1\frac{1}{2}$ 453 (500- $1\frac{1}{2}$)	2220-2	553 (600-2)



LOC I-MIB
109.9

APCH CRS
295°

Rwy Idg **13,197**
TDZE **1644**
Arpt Elev **1667**

AL-5013 [USAF]

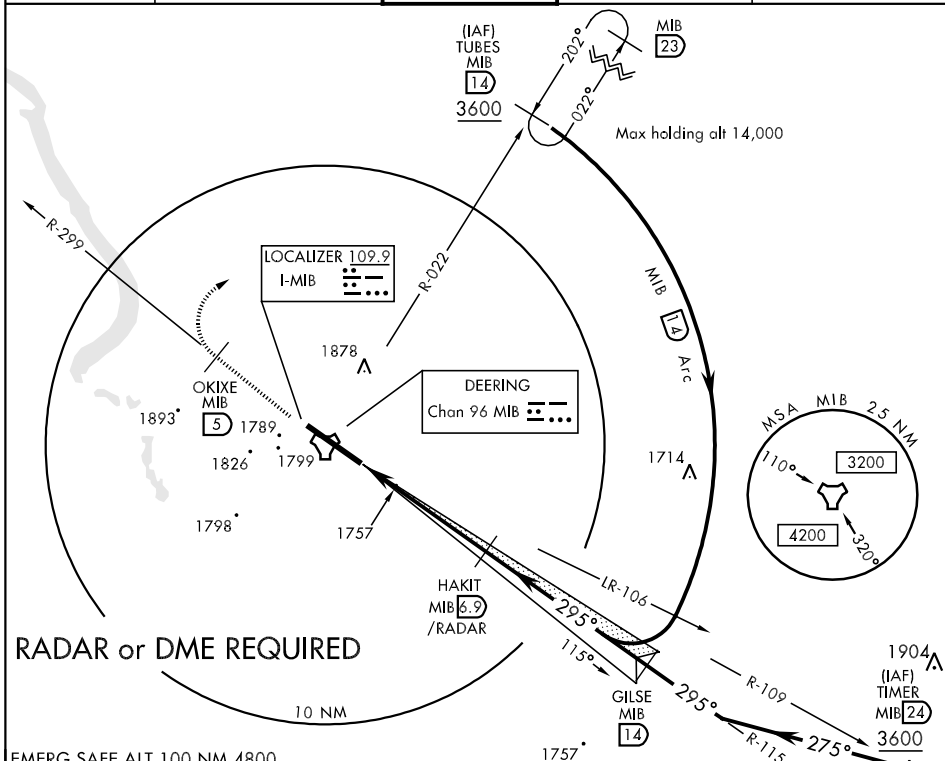
MINOT AFB (KMIB)

* When ALS inop, increase RVR to 40 and vis to $\frac{3}{4}$ mile.
** When ALS inop, increase CAT ABC RVR to 50 and vis to 1 mile,
CAT DE RVR to 60 and vis to $1\frac{1}{4}$ miles.
*** Circling N not authorized.



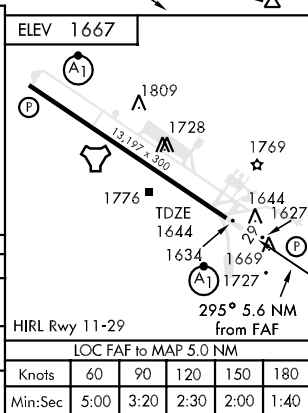
MISSED APPROACH: Climb to 4000 via MIB R-299. At 5 DME turn right direct TUBES and hold.

ATIS ★ 278.8	MINOT APP CON 119.6 363.8	MINOT TOWER ★ 120.65 253.5	GND CON 134.0 275.8	CLNC DEL 326.2
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EMERG SAFE ALT 100 NM 4800

4000 ↑ MIB R-299	MIB (5)	TUBES	HAKIT MIB (6.9) /RADAR	GILSE R-115 (14)	3600
TACAN	FAREG (1.9)	(2.6)			
	.6	5.0 NM			
GS 2.50° TCH 49					
CATEGORY	A	B	C	D	E
S-ILS 29 *	1844/24		200	(200- $\frac{1}{2}$)	
S-LOC 29 **	2020/24	376 (400- $\frac{1}{2}$)	2020/40	376 (400- $\frac{3}{4}$)	
CIRCLING***	2120-1	453 (500-1)	2120-1 $\frac{1}{2}$ 453 (500-1 $\frac{1}{2}$)	2220-2	553 (600-2)



TACAN MIB
Chan 96

APCH CR
122°

Rwy Idg	13,197
TDZE	1667
Arpt Elev	1667

AL-5013 [USAF]

MINOT AFB (KMIB)

* When ALS inop, increase CAT AB RVR to 50 and vis to 1 mile, CAT CD RVR to 60 and vis to 1¼ miles, CAT E vis to 1½ miles.
** Circling N not authorized.

ALSF-1

MISSED APPROACH: Climb to 4000 via MIB R-111 at 5 DME turn left direct TUBES and hold.

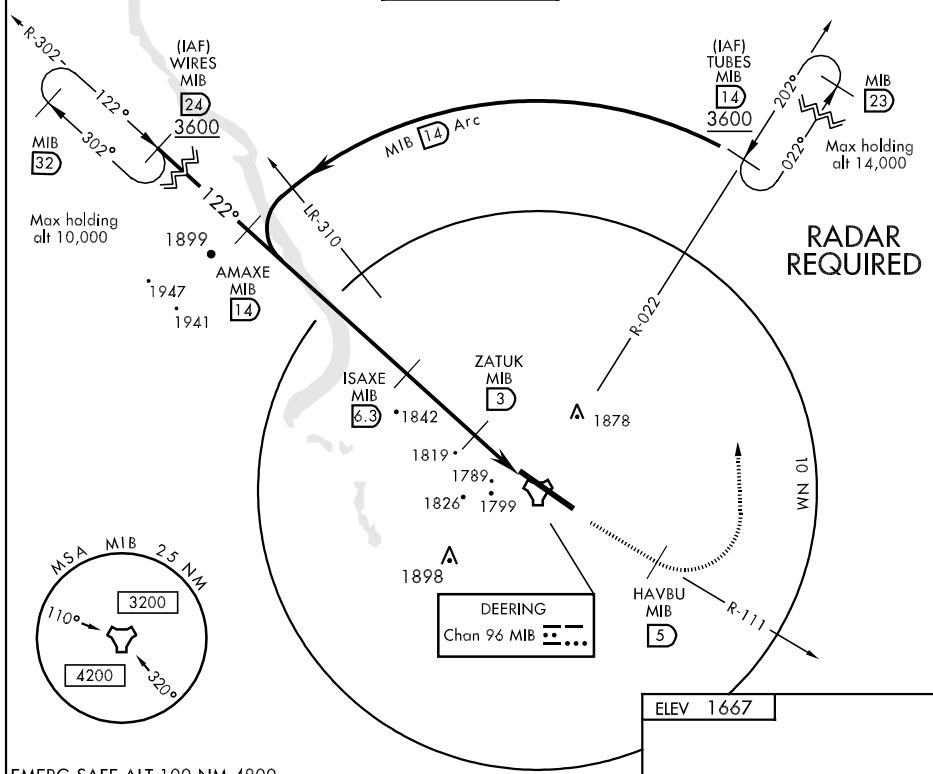
ATIS ★
278.8

MINOT APP CON
119.6 363.8

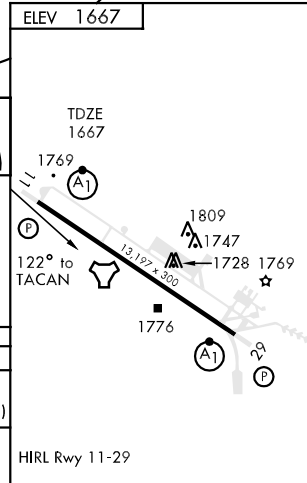
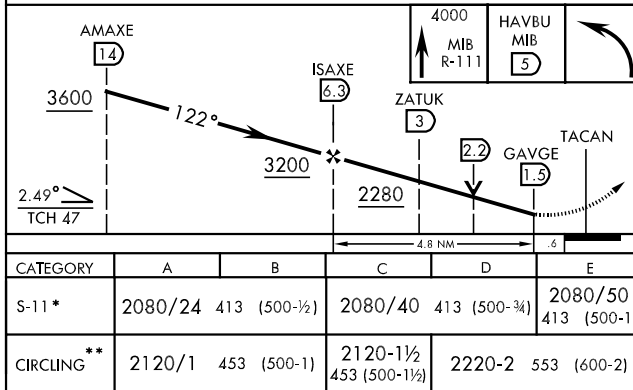
MINOT TOWER ★
120.65 253.5

GND CON
134.0 275.8

CLNC DEL
326.2



EMERG SAFE ALT 100 NM 4800



TACAN MIB Chan 96	APCH CRS 289°	Rwy Idg 13,197 TDZE 1644 Arpt Elev 1667
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AL-5013 [USAF]

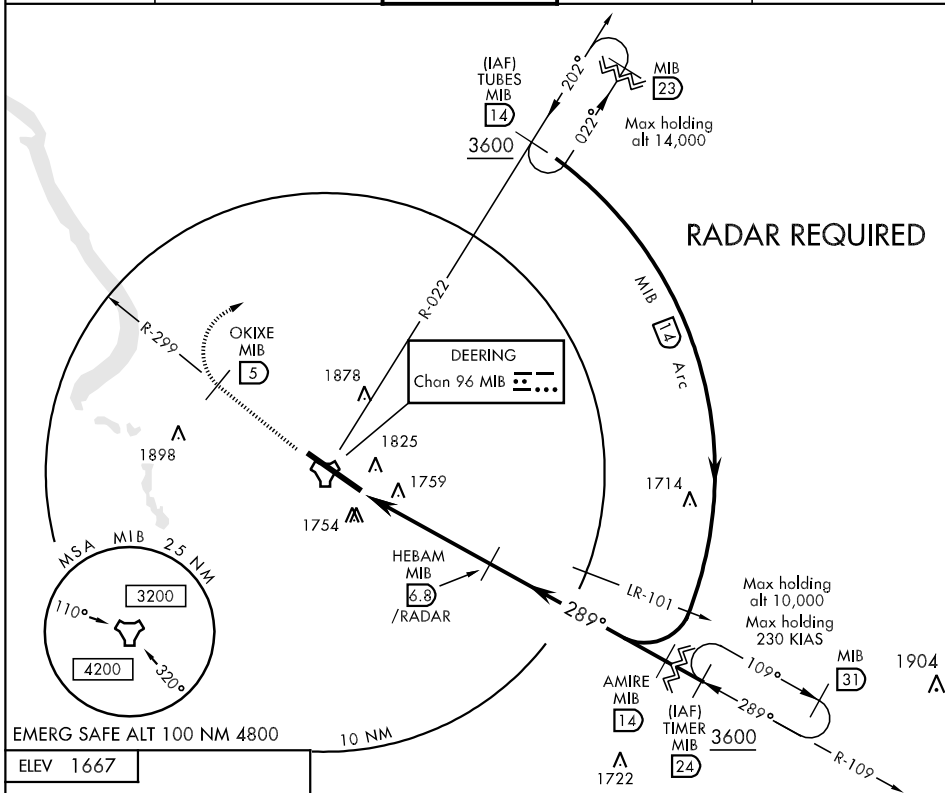
MINOT AFB (KMIB)

* When ALS inop, increase CAT ABC RVR to 50 and vis to 1 mile, CAT D RVR to 60 and vis to 1¼ miles, CAT E vis to 1½ miles.
** Circling N not authorized.

ALSF-1

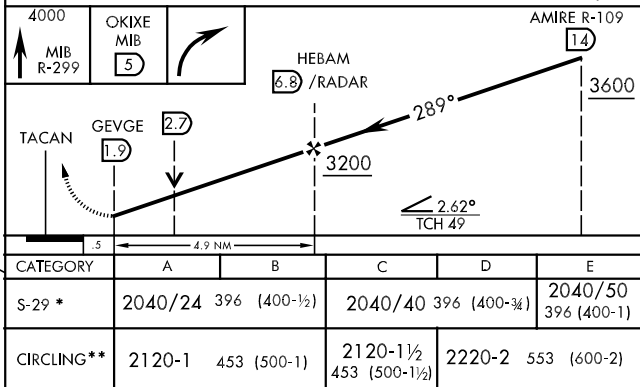
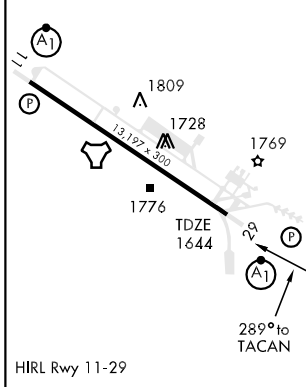
MISSED APPROACH: Climb to 4000 via MIB R-299.
At OKIXE turn right direct TUBES and hold.

ATIS ★ 278.8	MINOT APP CON 119.6 363.8	MINOT TOWER ★ 120.65 253.5	GND CON 134.0 275.8	CLNC DEL 326.2
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EMERG SAFE ALT 100 NM 4800

ELEV 1667



MINOT, NORTH DAKOTA

Amdt 1 07354

48° 25' N-101° 21' W

MINOT AFB (KMIB)

TACAN, BMA, CO

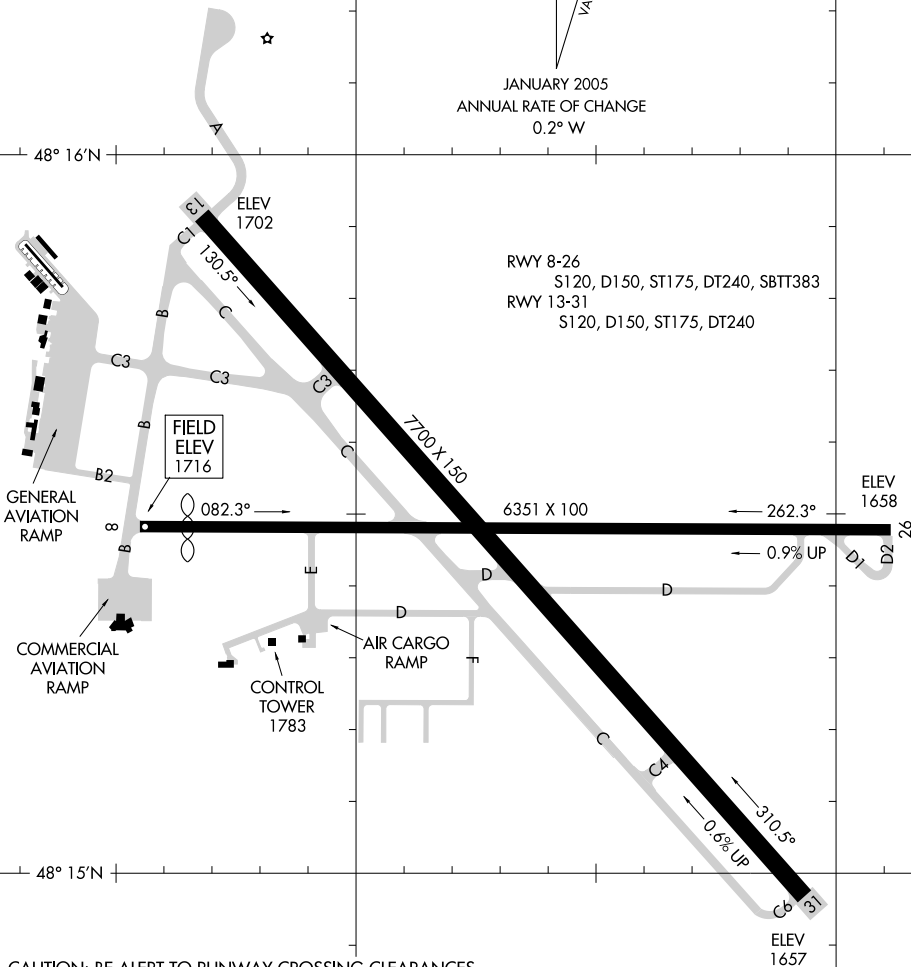
AIRPORT DIAGRAM

AL-635 (FAA)

MINOT INTL (MOT)
MINOT, NORTH DAKOTA

MAGIC CITY TOWER ★
118.2 393.1
GND CON
121.9 393.1

↑
VAR 80° E
JANUARY 2005
ANNUAL RATE OF CHANGE
0.2° W



CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

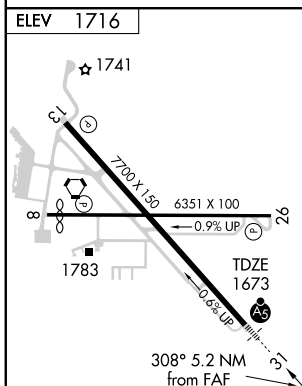
NC-1, 14 JAN 2010 to 11 FEB 2010

ILS or LOC RWY 31
MINOT INTL (MOT)

- MALSR

MISSED APPROACH: Climb to 3700 then left turn direct MOT VORTAC and hold.

DME or RADAR REQUIRED



3700 ↑		MOT  117.1	HEKTA I-MOT 13.6 RADAR			One Minute Holding Pattern
						
CATEGORY	A	B	C	D	E	
S-ILS 31	*1873/24 200 (200-½)					
S-LOC 31	1980/24 307 (300-½)			1980/40 307 (300-¾)		
CIRCLING	2200-1 484 (500-1)	2280-1½ 564 (600-1½)	2280-2 564 (600-2)	2800-3 1084 (1100-3)		

LOC/DME I-MOT 111.9 Chan 56	APP CRS 128°	Rwy Idg 7700 TDZE 1702 Apt Elev 1716
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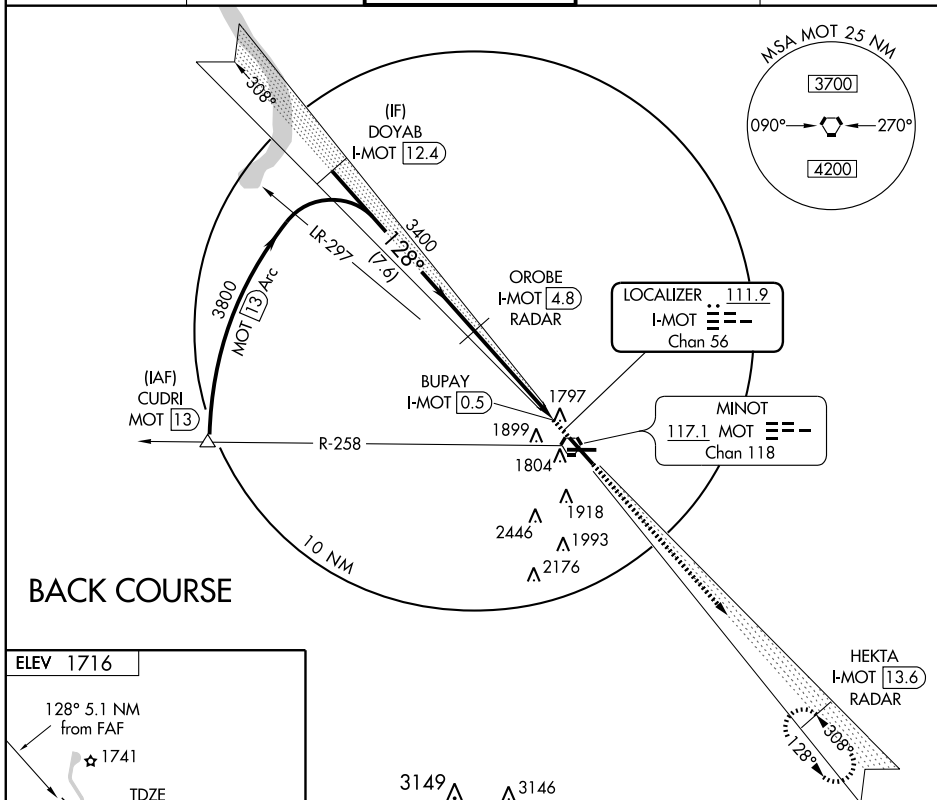
LOC/DME BC RWY 13

MINOT INTL (MOT)

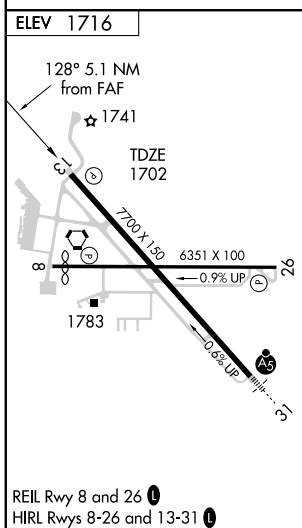
▽ If local altimeter not received use Minot AFB altimeter setting and increase all MDAs 40 feet.

MISSED APPROACH: Climb to 3700 via I-MOT LOC SE course to HEKTA/I-MOT 13.6 DME/RADAR and hold.

ASOS 118.725	MINOT APP CON ★ 119.6 363.8	MAGIC CITY TOWER ★ 118.2 (CTAF) 0 393.1	GND CON 121.9 393.1	UNICOM 122.95
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BACK COURSE



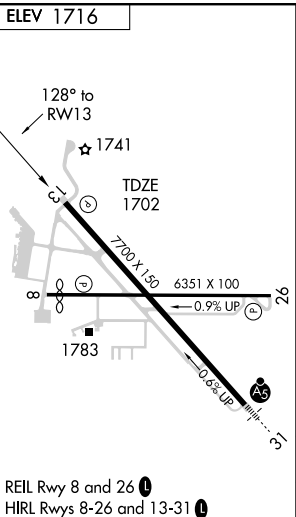
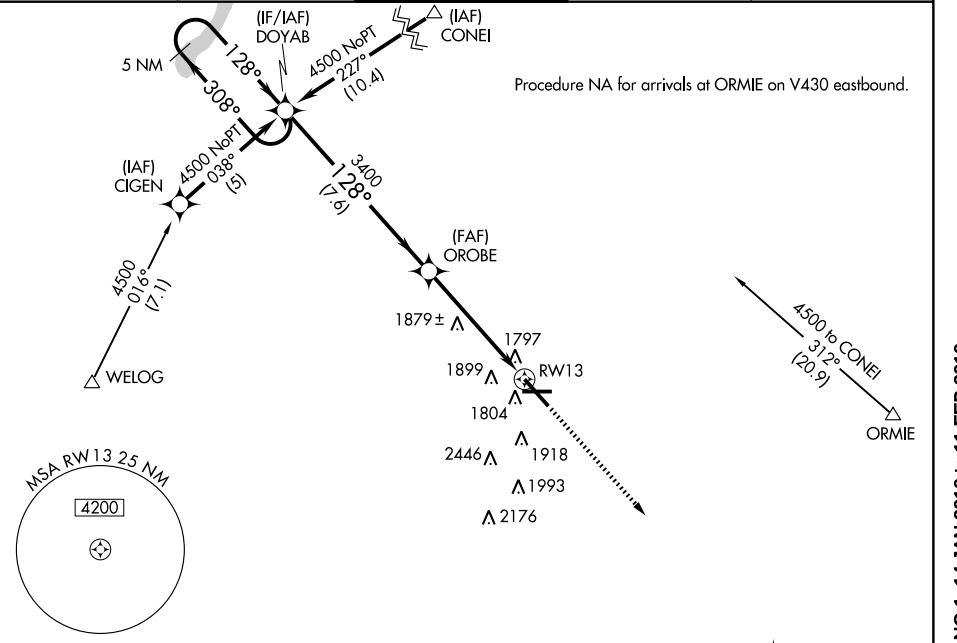
Disregard glide slope indications. Use I-MOT DME when on LOC course.				3700 ↑ I-MOT SE CRS	HEKTA I-MOT 13.6	
DOYAB I-MOT 12.4 3800 Procedure Turn NA 128° OROBE I-MOT 4.8 RADAR 3.05° TCH 49 BUPAY I-MOT 0.5 3400 7.6 NM 4.3 NM 0.8						
CATEGORY	A		B	C	D	
S-13	2060-1 358 (400-1)				2060-1¼ 358 (400-1¼)	
CIRCLING	2200-1 484 (500-1)		2280-1½ 564 (600-1½)		2280-2 564 (600-2)	

▼ If local altimeter not received, use Minot AFB altimeter setting and increase all DAs/MDAs 40 feet. Baro-VNAV NA below -18°C (0°F).

▲ VDP and Baro-VNAV NA when using Minot AFB altimeter setting. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 4000 direct HEKTA and hold.

ASOS 118.725	MINOT APP CON ★ 119.6 363.8	MAGIC CITY TOWER ★ 118.2 (CTAF) 0 393.1	GND CON 121.9 393.1	UNICOM 122.95
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3149 3146				
5 NM Holding Pattern DOYAB				
4500 308° 128° 128° 3400				
GS 3.00° TCH 49°				
7.6 NM 3.9 NM 1.2 NM				
CATEGORY	A	B	C	D
LPV DA	2021-1 319 (400-1)			
LNAV/VNAV DA	2164-1½ 462 (500-1½)			
LNAV MDA	2140-1	438 (500-1)	2140-1¼ 438 (500-1¼)	2140-1½ 438 (500-1½)
CIRCLING	2200-1½	484 (500-1½)	2280-1½ 564 (600-1½)	2280-2 564 (600-2)

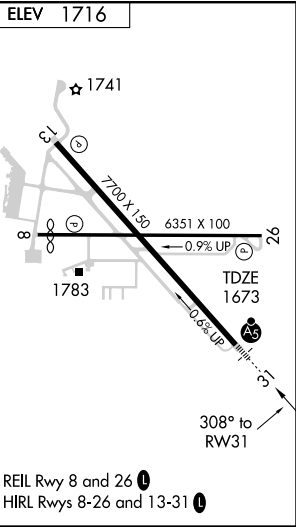
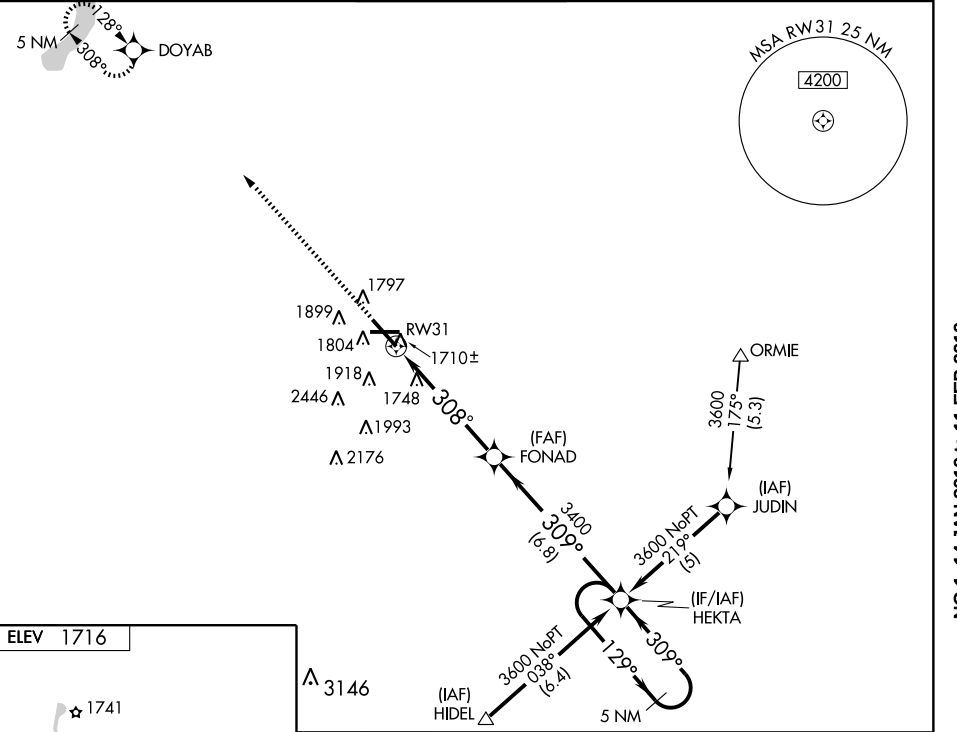
NC-1 14 JAN 2010 to 11 FEB 2010

⚠ If local altimeter setting not received use Minot AFB altimeter setting and increase all DAs/MDAs 40 feet. Baro-VNAV NA below -18°C (0°F). VDP and Baro-VNAV NA when using Minot AFB altimeter setting. For inoperative MALSR increase LPV visibility to RVR 5000 all Cats, LNAV/VNAV Cat D visibility to RVR 5000. Inoperative table does not apply to LNAV Cat D. DME/DME RNP-0.3 NA.

MALSR

MISSED APPROACH: Climb to 4500 direct DOYAB and hold.

ASOS 118.725	MINOT APP CON * 119.6 363.8	MAGIC CITY TOWER * 118.2 (CTAF) 0 393.1	GND CON 121.9 393.1	UNICOM 122.95
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REIL Rwy 8 and 26
HIRL Rwy 8-26 and 13-31

4500

DOYAB

HEKTA

5 NM Holding Pattern

FONAD

129°

3600

309°

308°

3400

0.9 NM

4.3 NM

6.8 NM

GS 3.00°

TCH 49

RW31

* LNAV only

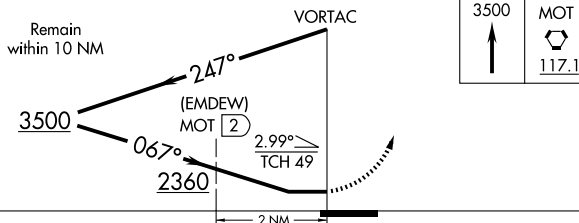
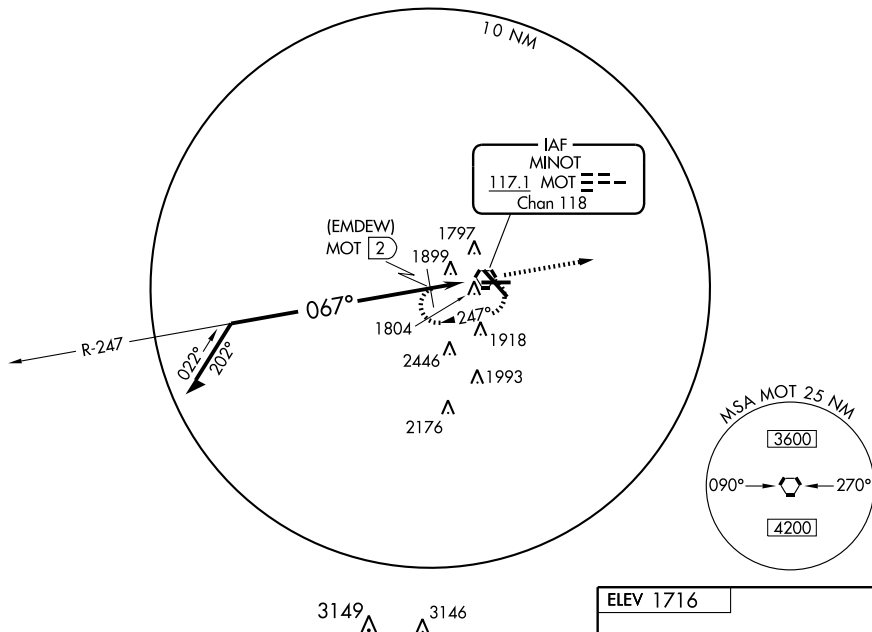
* 0.9 NM to RW31

CATEGORY	A	B	C	D
LPV DA	1923/24 250 (300-½)			
LNAV/VNAV DA	1960/24 287 (300-½)			1960/40 287 (300-¾)
LNAV MDA	2000/24 327 (300-½)			2000/50 327 (300-1)
CIRCLING	2200-1 484 (500-1)		2280-1½ 564 (600-1½)	2280-2 564 (600-2)

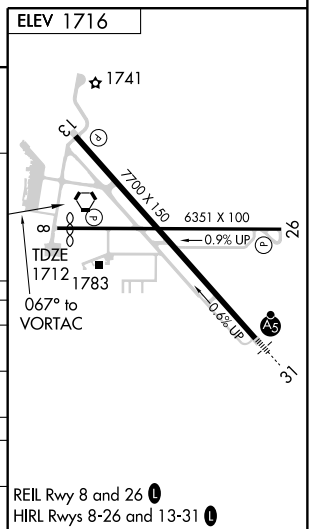
VORTAC MOT 117.1 Chan 118	APP CRS 067°	Rwy Idg TDZE 1712 Apt Elev 1716
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VOR or GPS RWY 8
MINOT INTL (MOT)

		MISSED APPROACH: Climb to 3500 then direct MOT VORTAC and hold.		
ASOS 118.725	MINOT APP CON ★ 119.6 363.8	MAGIC CITY TOWER ★ 118.2 (CTAF) 393.1	GND CON 121.9 393.1	UNICOM 122.95



CATEGORY	A	B	C	D
S-8	2360-1 648 (700-1)		2360-1¼ 648 (700-1¼)	2360-2 648 (700-2)
CIRCLING	2360-1 644 (700-1)		2360-1¼ 644 (700-1¼)	2360-2 644 (700-2)
DME MINIMUMS				
S-8	2160-1 448 (500-1)		2160-1¼ 448 (500-1¼)	2160-1½ 448 (500-1½)
CIRCLING	2200-1 484 (500-1)		2280-1½ 564 (600-1½)	2280-2 564 (600-2)

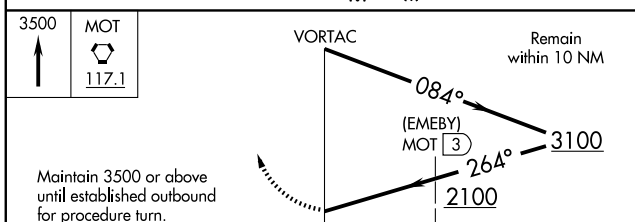
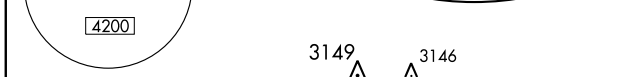
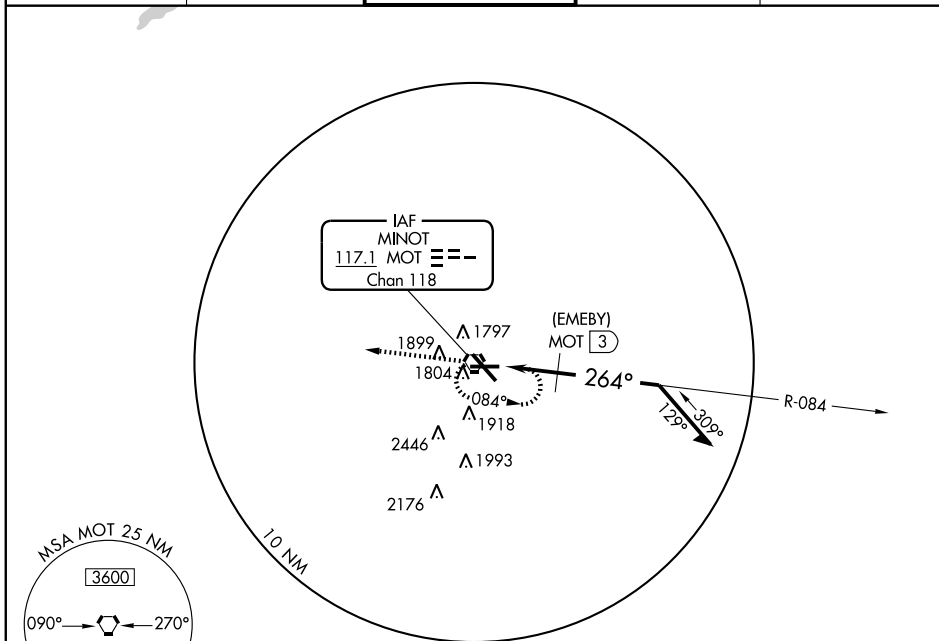


VORTAC MOT 117.1 Chan 118	APP CRS 264°	Rwy Idg TDZE 1682 Apt Elev 1716
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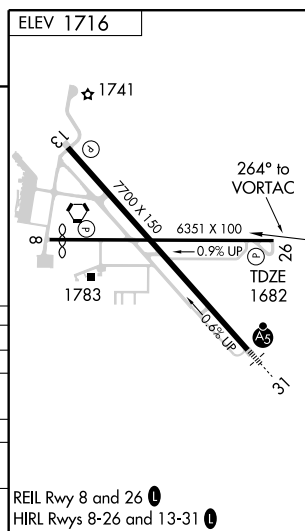
VOR or GPS RWY 26

MINOT INTL (MOT)

 MISSED APPROACH: Climb to 3500 then direct MOT VORTAC and hold.			
ASOS 118.725	MINOT APP CON ★ 119.6 363.8	MAGIC CITY TOWER ★ 118.2 (CTAF) 0 393.1	GND CON 121.9 393.1
		UNICOM 122.95	



CATEGORY	A	B	C	D
S-26	2100-1	418 (400-1)	2100-1¼	418 (400-1¼)
CIRCLING	2200-1	484 (500-1)	2280-1½ 564 (600-1½)	2280-2 564 (600-2)
DME MINIMA				
S-26	2040-1	358 (400-1)	2040-1¼	358 (400-1¼)
CIRCLING	2200-1	484 (500-1)	2280-1½ 564 (600-1½)	2280-2 564 (600-2)



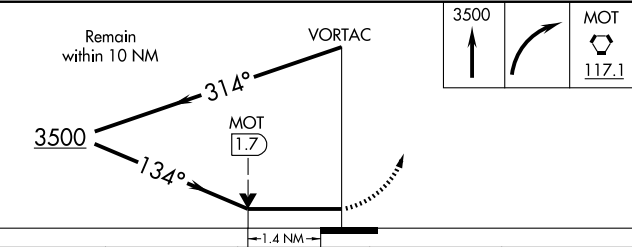
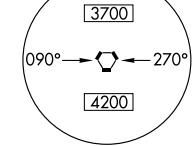
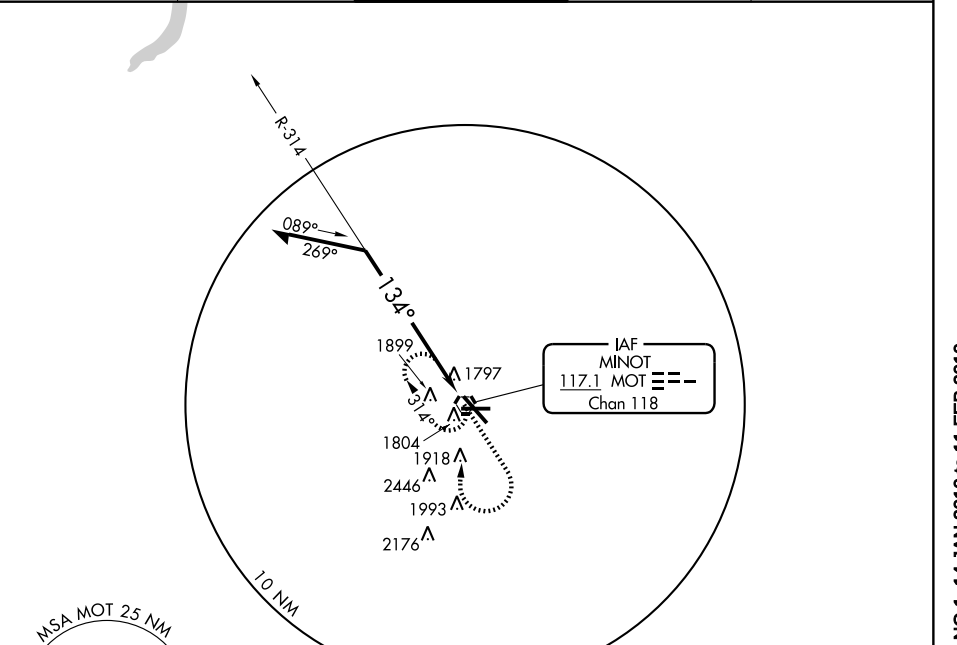
REIL Rwy 8 and 26
HIRL Rwy 8-26 and 13-31

VORTAC MOT	APP CRS	Rwy Idg	7700
117.1	134°	TDZE	1702
Chan 118		Apt Elev	1716

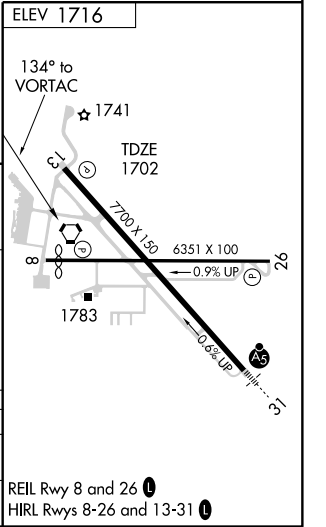
▼

MISSED APPROACH: Climb to 3500 then right turn direct MOT VORTAC and hold.

ASOS 118.725	MINOT APP CON ★ 119.6 363.8	MAGIC CITY TOWER ★ 118.2 (CTAF) 393.1	GND CON 121.9 393.1	UNICOM 122.95
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CATEGORY	A	B	C	D
S-13	2200-1 498 (500-1)		2200-1¼ 498 (500-1¼)	2200-1½ 498 (500-1½)
CIRCLING	2200-1 484 (500-1)		2280-1½ 564 (600-1½)	2280-2 564 (600-2)



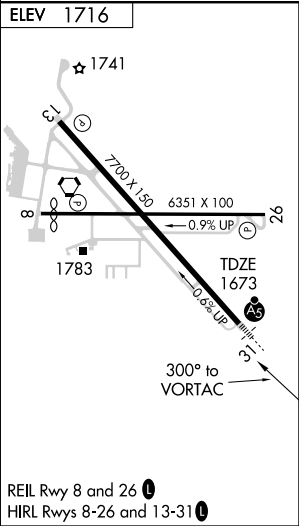
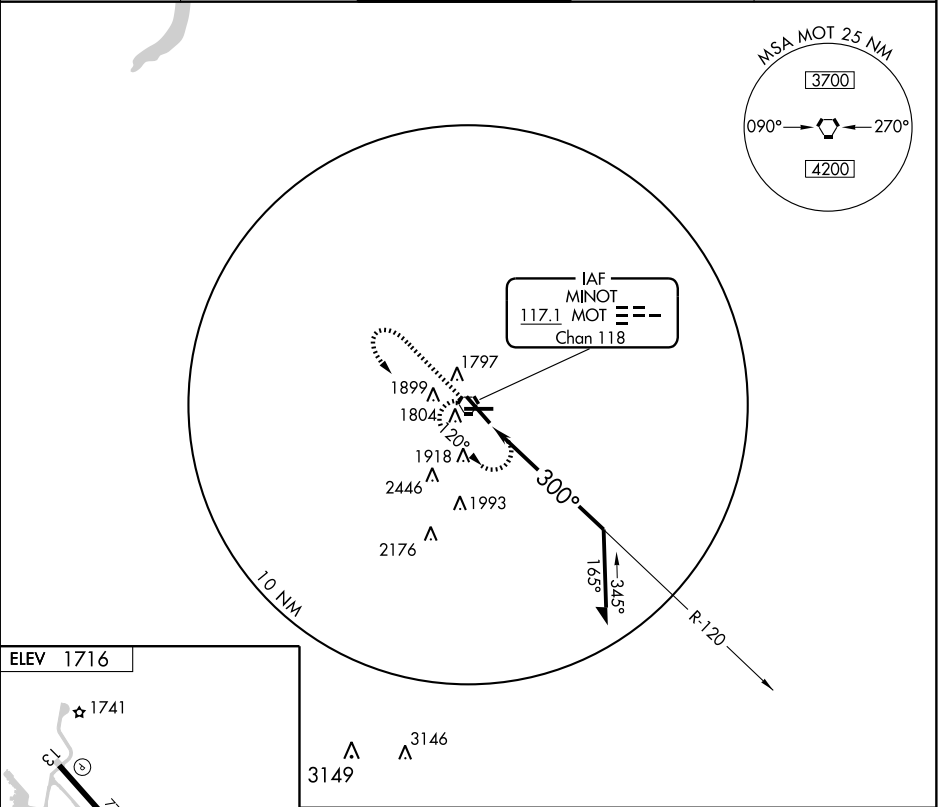
REIL Rwy 8 and 26
HIRL Rws 8-26 and 13-31

VORTAC MOT 117.1 Chan 118	APP CRS 300°	Rwy Idg TDZE 1673 Apt Elev 1716
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VOR RWY 31
MINOT INTL (MOT)

		MISSED APPROACH: Climb to 3500 then left turn direct MOT VORTAC and hold.	
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ASOS 118.725	MINOT APP CON ★ 119.6 363.8	MAGIC CITY TOWER ★ 118.2 (CTAF) 393.1	GND CON 121.9 393.1	UNICOM 122.95
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3500		MOT 117.1		VORTAC		Remain within 10 NM	
120°		300°		3500			
CATEGORY	A	B	C	D			
S-31	2200/24	527 (500-½)	2200/50 527 (500-1)	2200/60 527 (500-1¼)			
CIRCLING	2200-1	484 (500-1)	2280-1½ 564 (600-1½)	2280-2 564 (600-2)			

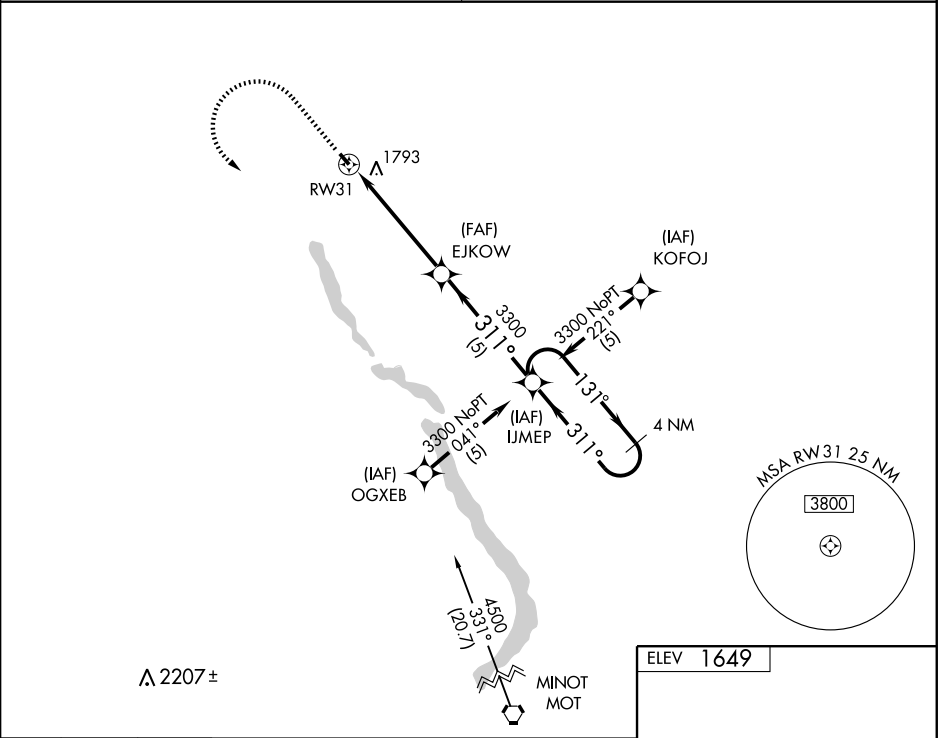
APP CRS	Rwy Idg	3121
311°	TDZE	1649
	Apt Elev	1649

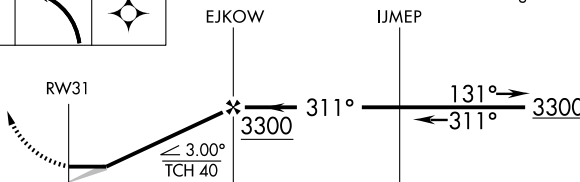
RNAV (GPS) RWY 31

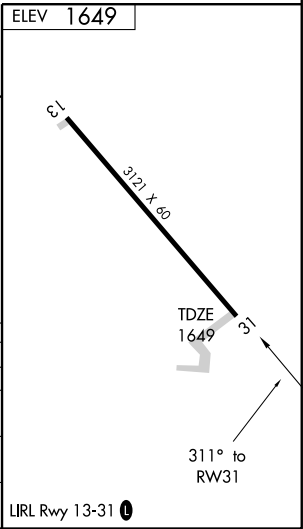
MOHALL MUNI (HBC)

▲ NA Use Minot Intl altimeter setting. GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.	MISSED APPROACH: Climb to 3000 then climbing left turn to 3300 direct IJMEP WP and hold.
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MINOT APP CON ★ 119.6 363.8	UNICOM 122.8 (CTAF) 0
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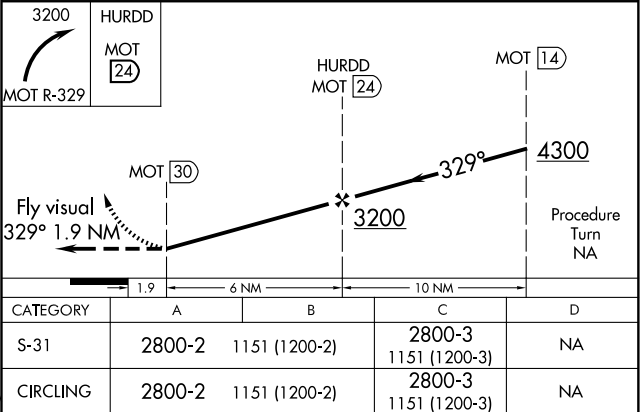
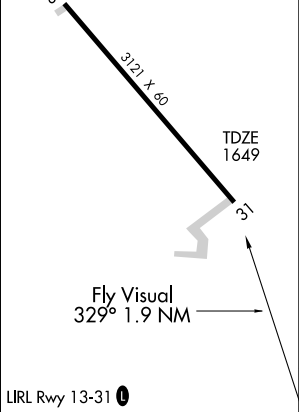
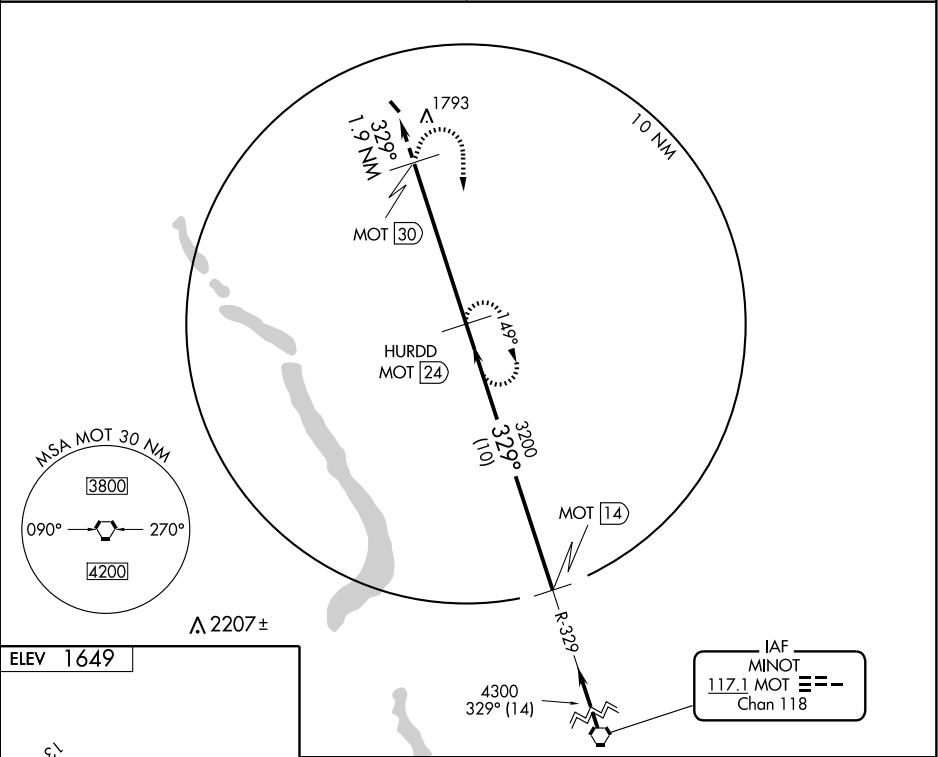
3000	3300	IJMEP	4 NM Holding Pattern			
						
						
CATEGORY	A		B		C	D
GLS DA			NA			
LNAV/VNAV			NA			
LNAV MDA	2180-1	531 (600-1)	2180-1½ 531 (600-1½)		NA	
CIRCLING	2240-1	591 (600-1)	2240-1½ 591 (600-1½)		NA	



VORTAC MOT	APP CRS	Rwy Idg	3121
117.1	329°	TDZE	1649
Chan 118		Apt Elev	1649

VOR/DME RWY 31
MOHALL MUNI (HBC)

▲ NA Use Minot Intl altimeter setting.	MISSED APPROACH: Climbing right turn to 3200 via MOT R-329 to HURDD 24 DME and hold.
MINOT APP CON ★ 119.6 363.8	UNICOM 122.8 (CTAF) 0



APP CRS	Rwy Idg	3160
262°	TDZE	1117
	Apt Elev	1117

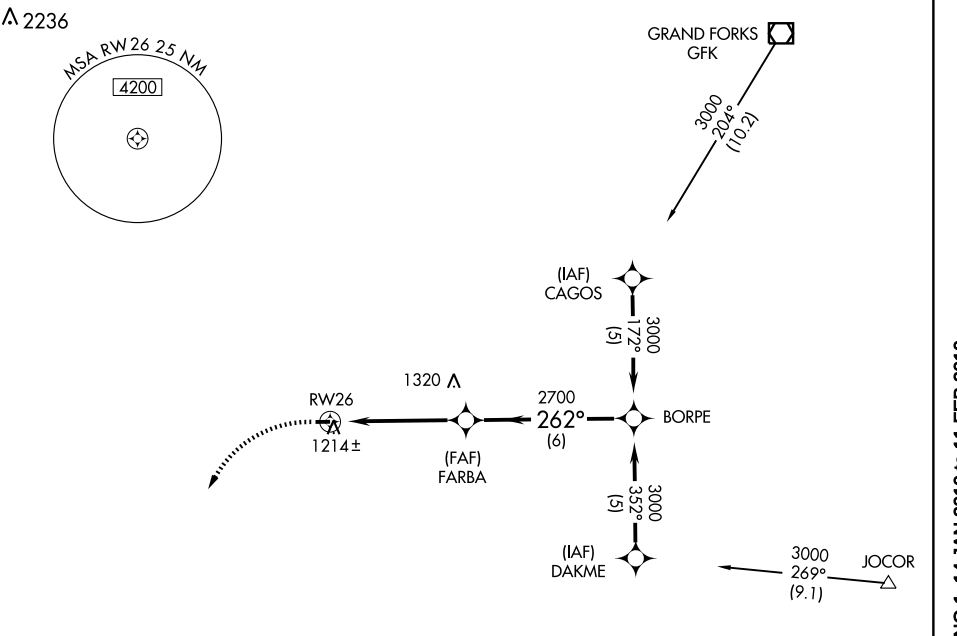
NA

DME/DME RNP- 0.3 NA.
Use Grand Forks Intl altimeter setting.
Procedure NA at night.

GRAND FORKS APP CON
118.1 318.1

MISSED APPROACH: Climb to 1800 then climbing left turn to 3500 direct UNIZY WP and hold.

UNICOM
122.8 (CTAF)



UNIZY

065° 245° 4 NM

1800 3500 UNIZY

RW26

4.9 NM

2700

3.00° TCH 40

6 NM

BORPE

3000

262°

Procedure Turn NA

CATEGORY	A	B	C	D
LNNAV MDA	1660-1	543 (600-1)	NA	
CIRCLING	1720-1	603 (700-1)	NA	

ELEV 1117

3160 X 60

TDZE 1117

26

262° to RW26

MIRL Rwy 8-26

NC-1. 14 JAN 2010 to 11 FEB 2010

APP CRS 305°	Rwy Idg TDZE Apt Elev	3505 1335 1335
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GPS RWY 30
OAKES MUNI (2D5)

T Use Aberdeen altimeter setting.

MISSED APPROACH: Climb to 2000 then climbing right turn to 5000 direct EVUKY WP and hold.

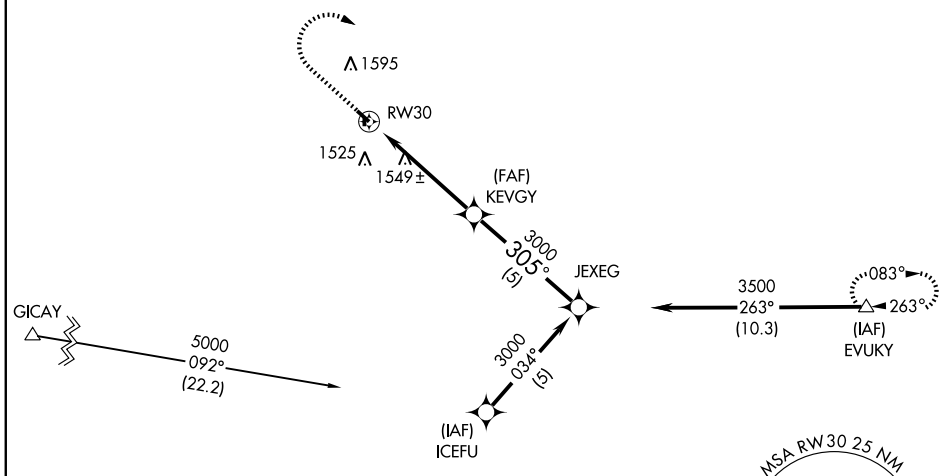
A NA

AWOS-3
118.675

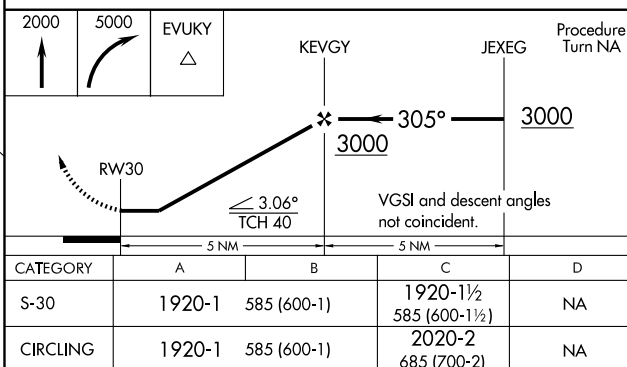
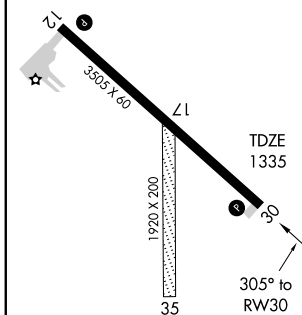
MINNEAPOLIS CENTER
124.2 270.3

CTAF
122.9

A1749



ELEV 1335

MIRL Rwy 12-30 **L**

VORTAC HML 112.4 Chan 71	APP CRS 301°	Rwy Idg 3800 TDZE 795 Apt Elev 795
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VOR or GPS RWY 33
PEMBINA MUNI (PMB)

T	Obtain local altimeter setting on CTAF; when not
A NA	received use Hallock altimeter setting.

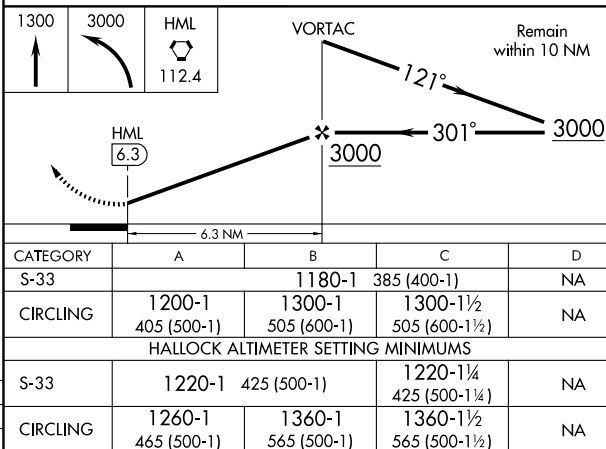
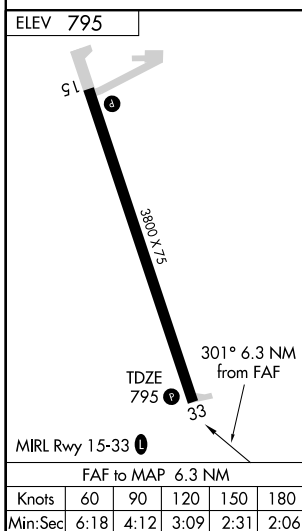
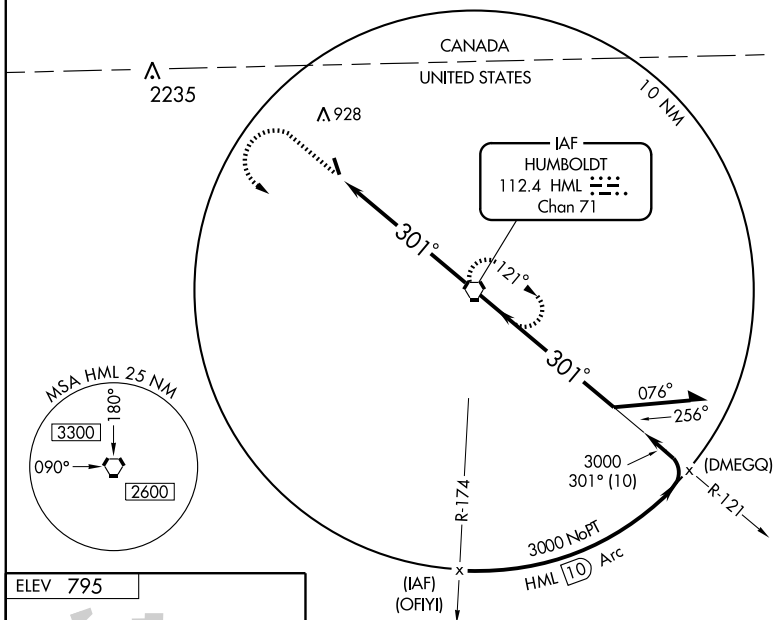
MISSED APPROACH: Climb to 1300 then climbing left turn to 3000 direct HML VORTAC and hold.

HALLOCK AWOS-3
126.475

MINNEAPOLIS CENTER
132.15 269.6

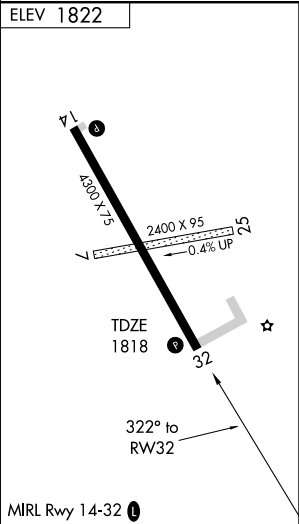
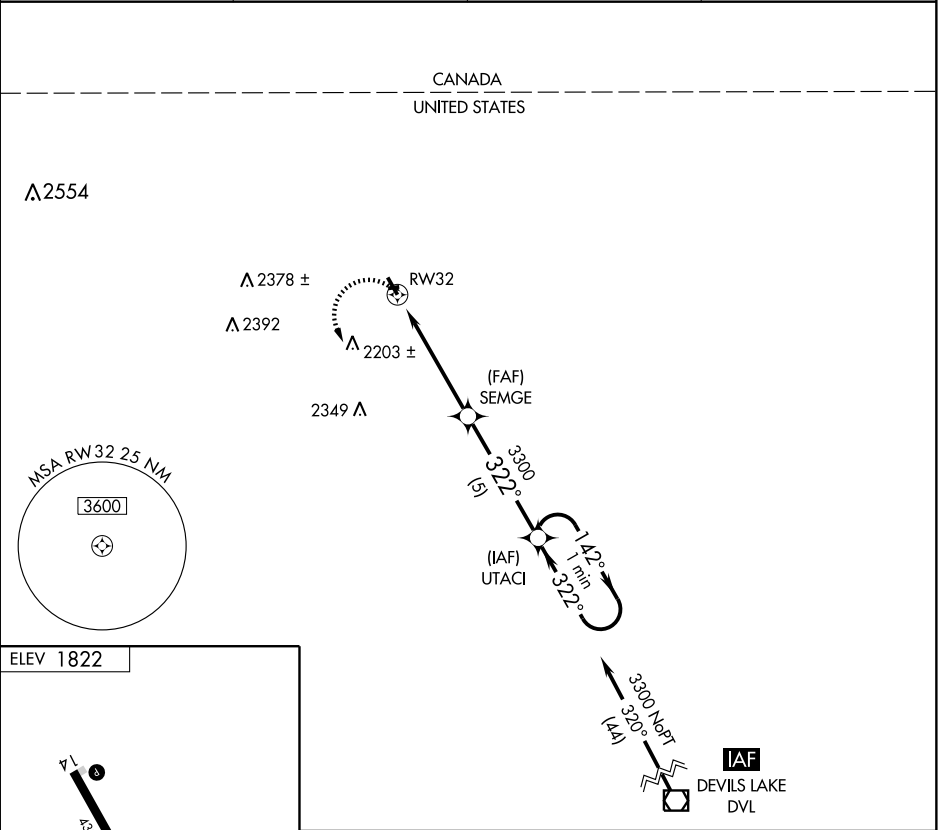
PRINCETON RADIO
122.1R

UNICOM
122.8 (CTAF) **L**



APP CRS	Rwy Idg	4300
322°	TDZE	1818
	Apt Elev	1822

Use Devils Lake altimeter setting. NA IAF ARM APPROACH MODE PRIOR TO IAF.		MISSED APPROACH: Climbing left turn to 4000 direct UTACI WP and hold.	
AWOS-3 118.125	DEVILS LAKE AWOS-3 125.875	MINNEAPOLIS CENTER 127.6 279.6	UNICOM 122.8 (CTAF) Ø



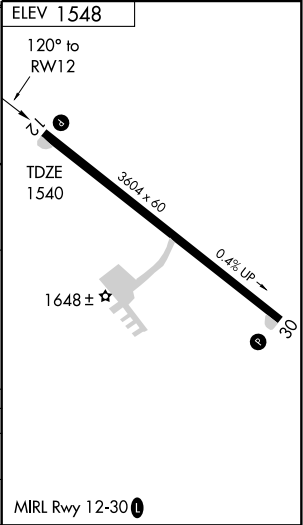
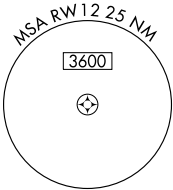
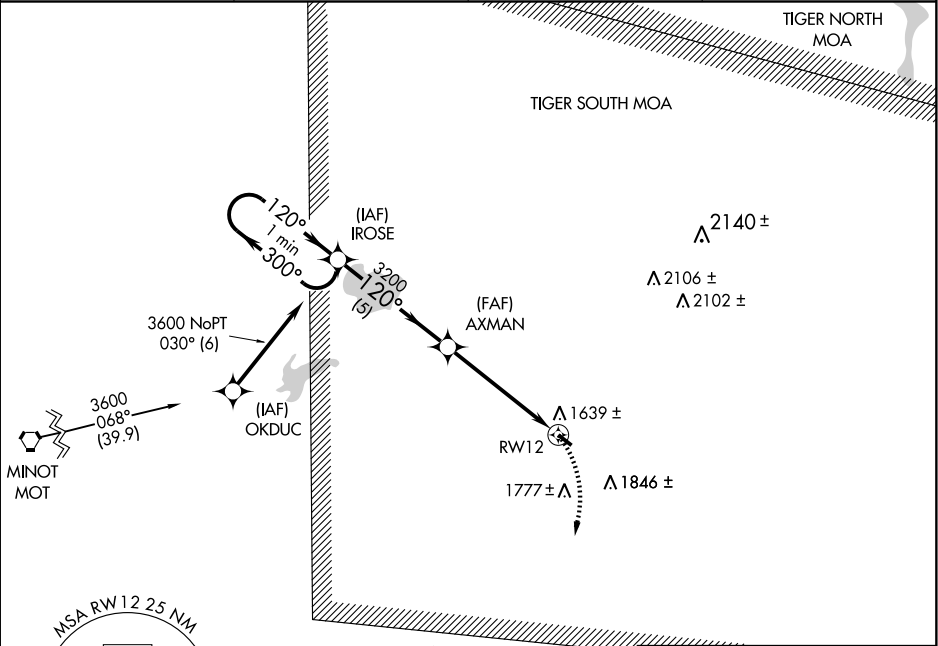
4000		UTACI		One Minute Holding Pattern	
SEMGE		UTACI		142° 3300	
RW32		3300		322°	
5 NM		5 NM			
CATEGORY	A	B	C	D	
S-32	2340-1	522 (600-1)	2340-1½ 522 (600-1½)	2340-1¾ 522 (600-1¾)	
CIRCLING	2460-1	638 (700-1)	2480-1¾ 658 (700-1¾)	2660-2¾ 838 (900-2¾)	

GPS RWY 12
RUGBY MUNI (RUG)

APP CRS	Rwy Idg	3604
120°	TDZE	1540
	Apt Elev	1548

▲ NA	Use Devils Lake altimeter setting.	MISSED APPROACH: Climbing right turn to 3600 direct BALTA WP and hold.
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AWOS-3 118.475	DEVILS LAKE AWOS-3 125.875	GRAND FORKS RADIO 122.2	UNICOM 122.8 (CTAF) ①
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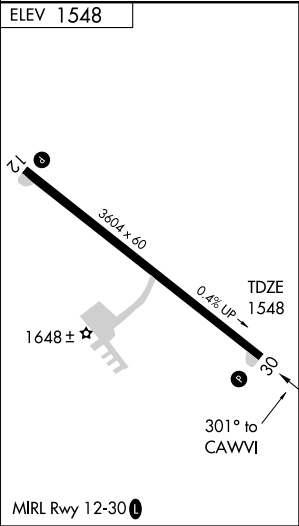
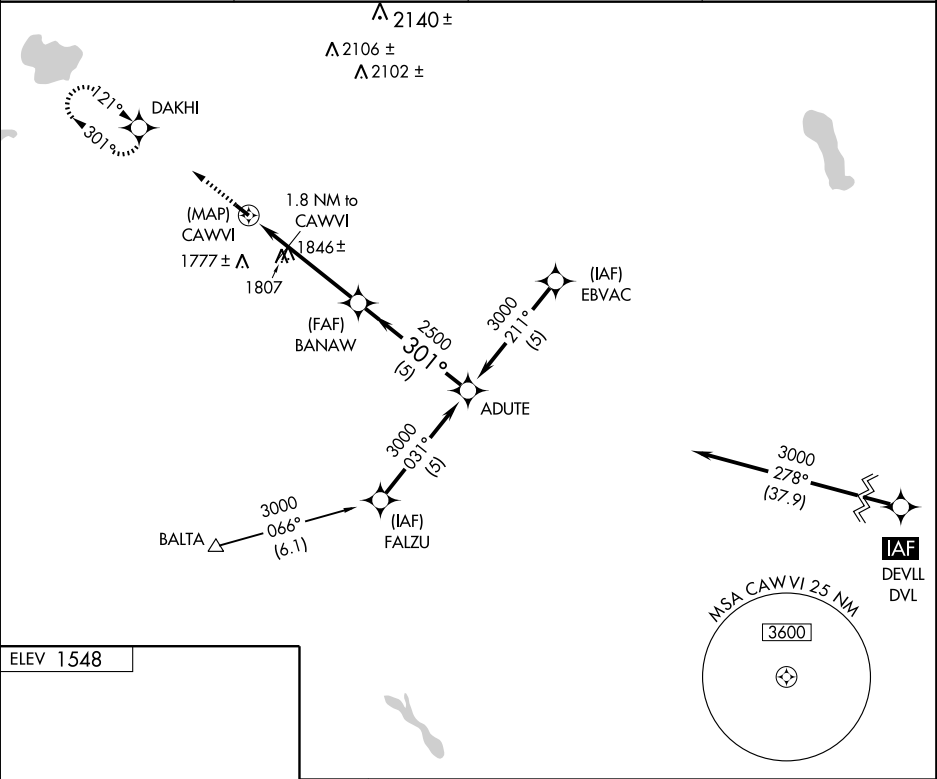


One Minute Holding Pattern				
3600 ← 300° 120° →				
IROSE				
AXMAN				
3200				
RWY 12				
5 NM 5 NM				
CATEGORY	A	B	C	D
S-12	2020-1	480 (500-1)	2020-1¼ 480 (500-1¼)	NA
CIRCLING	2160-1	612 (700-1)	2160-1¾ 612 (700-1¾)	NA

GPS RWY 30
RUGBY MUNI (RUG)

APP CRS	Rwy Idg	3604
301°	TDZE	1548
	Apt Elev	1548

NA Use Devils Lake altimeter setting. IAF ARM APPROACH MODE PRIOR TO IAF.		MISSED APPROACH: Climb to 3500 direct DAKHI WP and hold.	
AWOS-3 118.475	DEVILS LAKE AWOS-3 125.875	GRAND FORKS RADIO 122.2	UNICOM 122.8 (CTAF) 0



3500

DAKHI

Procedure Turn

NA

ADUTE

3000

301°

2500

2280

1.8 NM to CAWVI

BANAW

CAWVI

1.8

3.2 NM

5 NM

CATEGORY	A	B	C	D
S-30	2080-1	532 (600-1)	2080-1½ 532 (600-1½)	NA
CIRCLING	2140-1	592 (600-1)	2140-1½ 592 (600-1½)	NA

APP CRS	Rwy Idg	3900
278°	TDZE	2244
	Apt Elev	2245

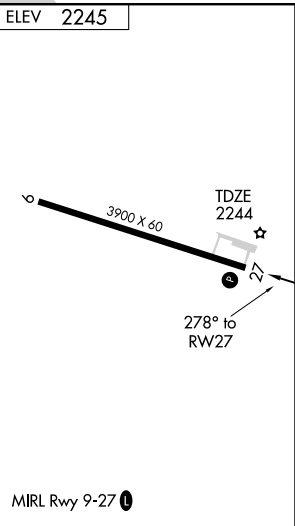
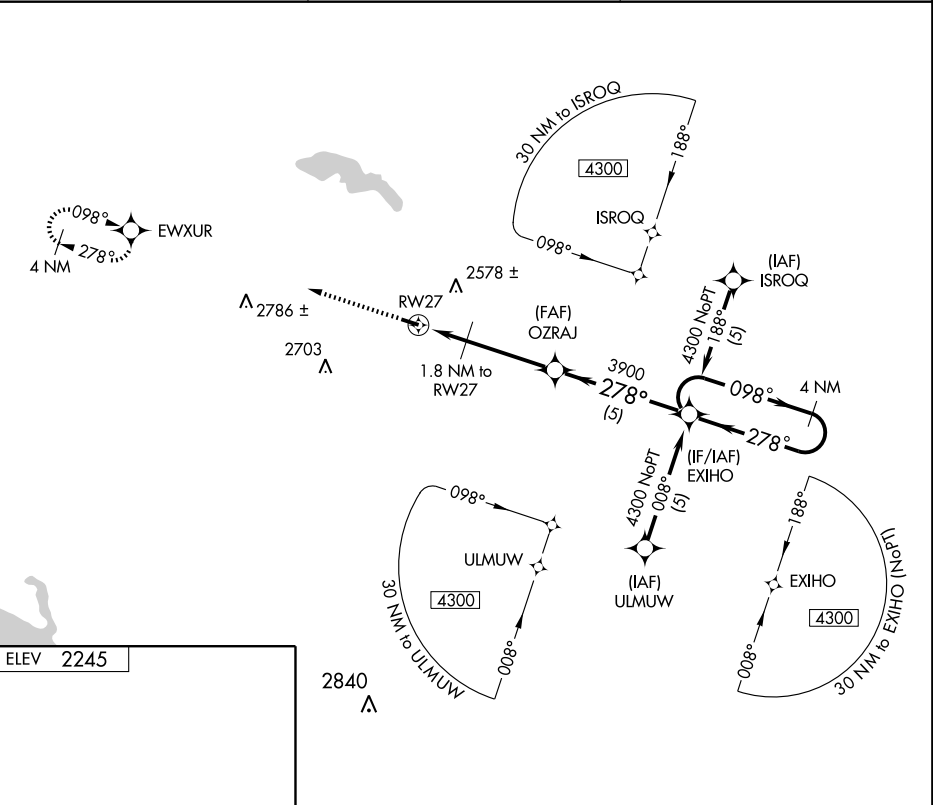
RNAV (GPS) RWY 27
STANLEY MUNI (Ø8D)

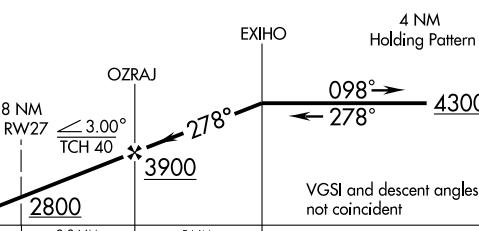
▲ NA	Use Minot altimeter setting. GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.	MISSED APPROACH: Climb to 5000 direct EWXUR WP and hold.
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AWOS-3
121.1

MINNEAPOLIS CENTER
127.6 279.6

CTAF
122.9



5000 ↑	EWXUR 				
		OZRAJ	EXIHO	4 NM Holding Pattern	
1.8 NM to RW27		≤ 3.00° TCH 40	278°	098° →	4300
RW27		2800	3900	VGSi and descent angles not coincident	
1.8		3.3 NM	5 NM		
CATEGORY	A	B	C	D	
LNAV MDA	2740-1	496 (500-1)	NA		
CIRCLING	2880-1	635 (700-1)	NA		

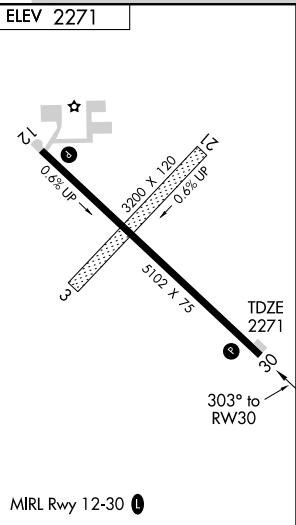
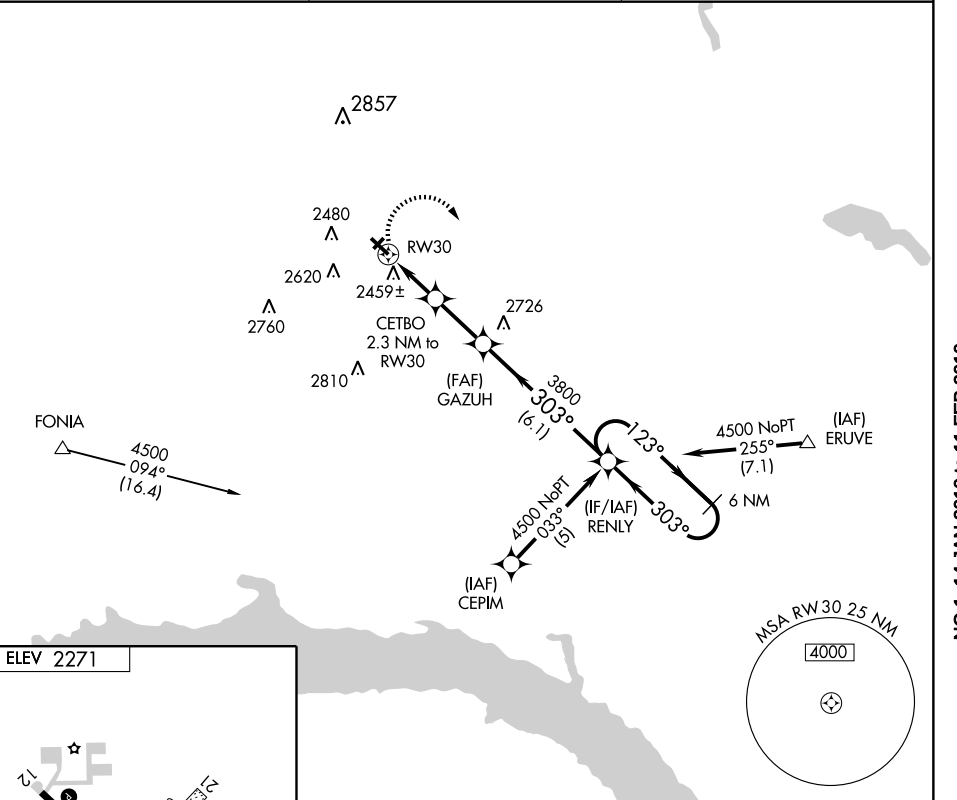
▼

▲ NA

DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Williston altimeter setting and increase all MDA 120 feet and increase LNAV Cat C and D visibility ½ mile; Circling Cat C and D visibility ½ mile.

MISSED APPROACH:
Climbing right turn to 4500 direct RENLY and hold.

AWOS-3 118.575	MINNEAPOLIS CENTER 127.6 279.6	CTAF 122.9 0
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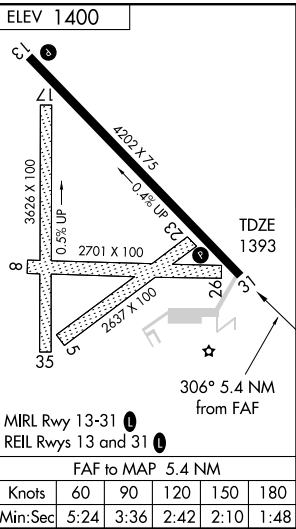
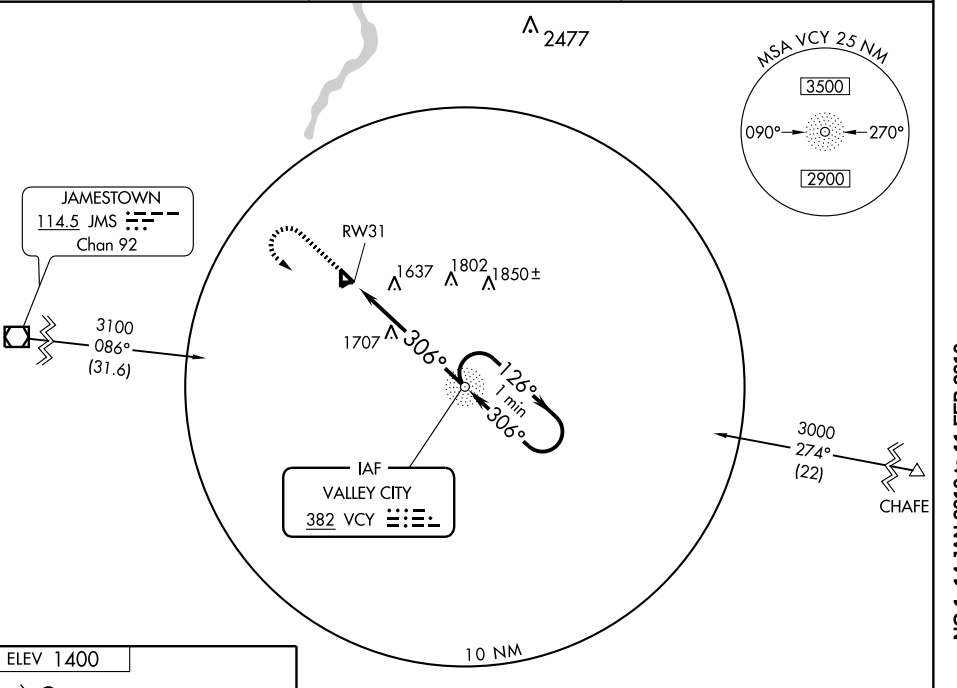
4500	RENLY	6 NM Holding Pattern			

⚠ NA

Obtain local altimeter setting on CTAF; when not received use Jamestown altimeter setting.

MISSED APPROACH: Climb to 2500 then climbing left turn to 3000 direct VCY NDB and hold.

AWOS-3 118.225	MINNEAPOLIS CENTER 124.2 270.3	UNICOM 122.8 (CTAF) 
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2500

↑

3000

↶

VCY



382

NDB

One Minute Holding Pattern

126° →

← 306°

3000

RW31

↗ 306°

5.4 NM

CATEGORY	A	B	C	D
S-31	2020-1	627 (700-1)	2020-1 ³ / ₄ 627 (700-1 ³ / ₄)	NA
CIRCLING	2020-1	620 (700-1)	2020-1 ³ / ₄ 620 (700-1 ³ / ₄)	NA

JAMESTOWN ALTIMETER SETTING MINIMUMS

S-31	2120-1	727 (800-1)	2120-2 727 (800-2)	NA
CIRCLING	2120-1	720 (800-1)	2120-2 720 (800-2)	NA

APP CRS	Rwy Idg	5100
151°	TDZE	968
	Apt Elev	968

RNAV (GPS) RWY 15

WAHPETON/HARRY STERN (BWP)

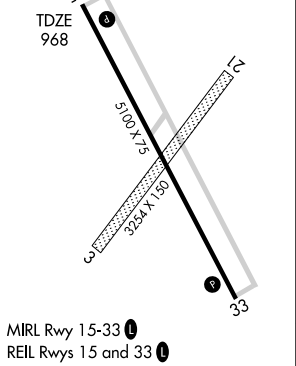
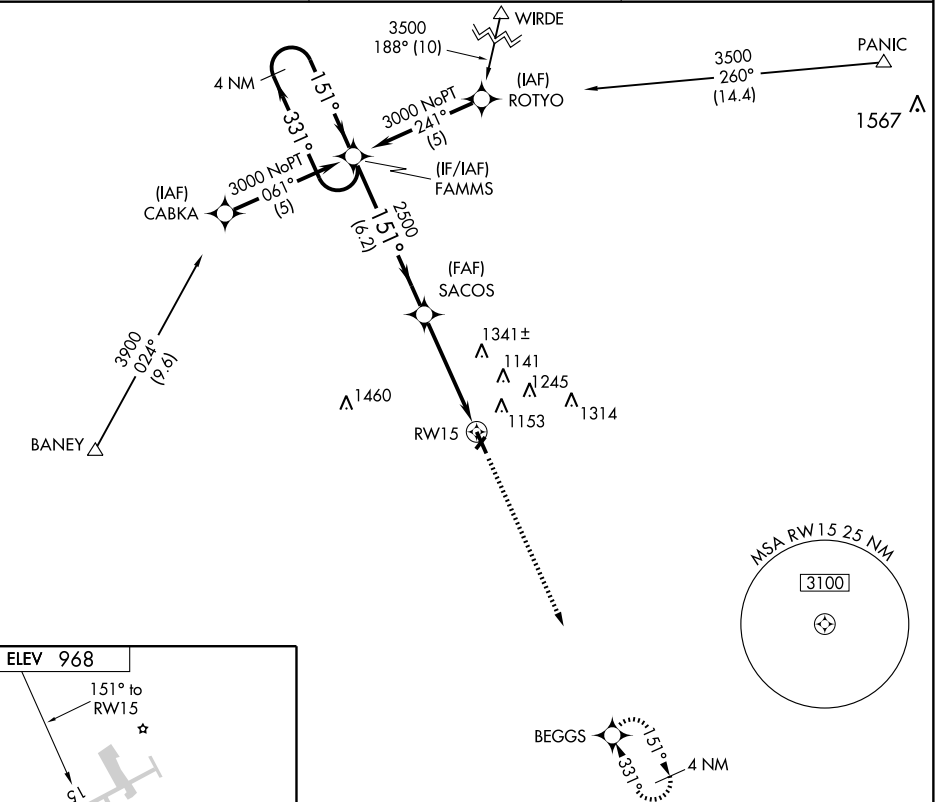
▼

NA

DME/DME RNP-0.3 NA. Circling to Rwy 3/21 NA at night.
If local altimeter setting not received, use Fergus Falls, MN altimeter setting and increase all MDAs 80 feet.
VDP NA when using Fergus Falls, MN altimeter setting.

MISSED APPROACH: Climb to 3000 direct BEGGS and hold.

AWOS-3 127.875	GRAND FORKS RADIO 122.425	UNICOM 123.0 (CTAF) 1
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4 NM Holding Pattern				
3000 ← 331° 151° →				
VGSI and descent angles not coincident.				
FAMMS SACOS 1.6 NM to RWY 15				
2500 3.04° TCH 55 6.2 NM 3 NM 1.6 NM				
CATEGORY	A	B	C	D
LNAV MDA	1500-1	532 (600-1)	1500-1½ 532 (600-1½)	1500-1¾ 532 (600-1¾)
CIRCLING	1520-1	552 (600-1)	1520-1½ 552 (600-1½)	1560-2 592 (600-2)

APP CRS	Rwy Idg	5100
331°	TDZE	967
	Apt Elev	968

RNAV (GPS) RWY 33

WAHPETON/HARRY STERN (BWP)

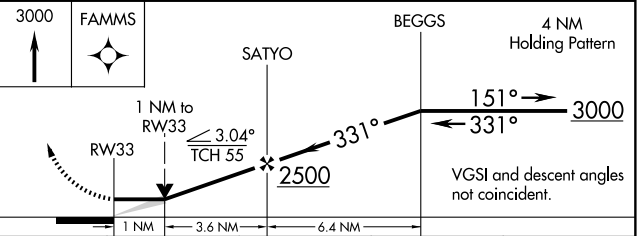
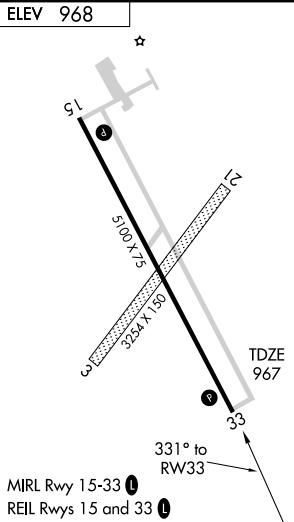
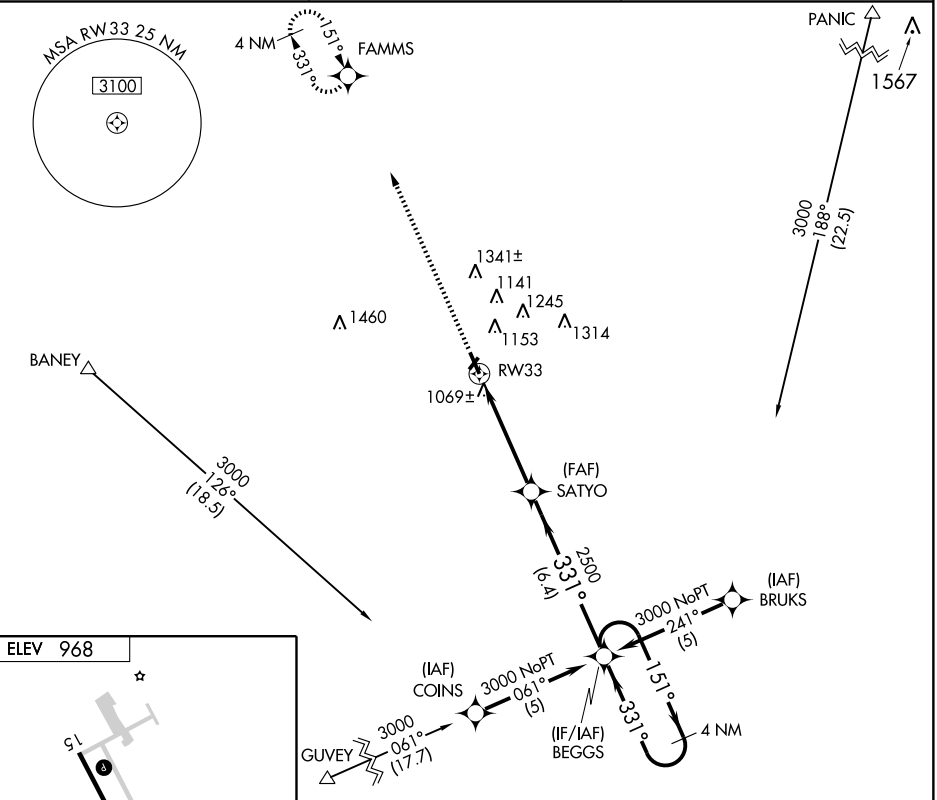
▼

NA

DME/DME RNP-0.3 NA.
If local altimeter setting not received , use Fergus Falls, MN
altimeter setting and increase all MDAs 80 feet.
VDP NA when using Fergus Falls, MN altimeter setting.

MISSED APPROACH: Climb to 3000 direct FAMMS
and hold.

AWOS-3 127.875	GRAND FORKS RADIO 122.425	UNICOM 123.0 (CTAF) 0
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CATEGORY	A	B	C	D
LNAV MDA	1320-1	353 (400-1)	1320-1¼	353 (400-1¼)
CIRCLING	1520-1	552 (600-1)	1520-1½	592 (600-2)

APP CRS	Rwy Idg	3400
345°	TDZE	953
	Apt Elev	953

RNAV (GPS) RWY 33

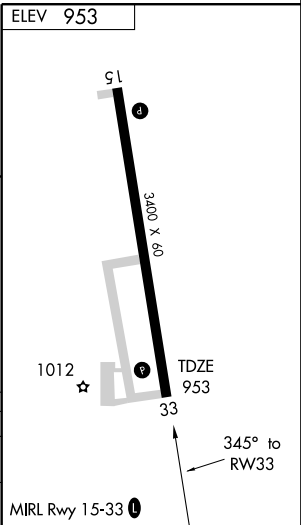
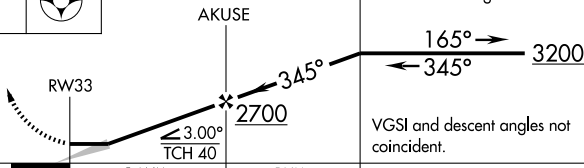
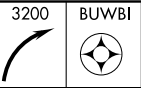
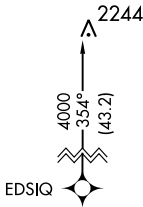
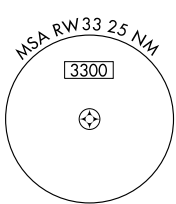
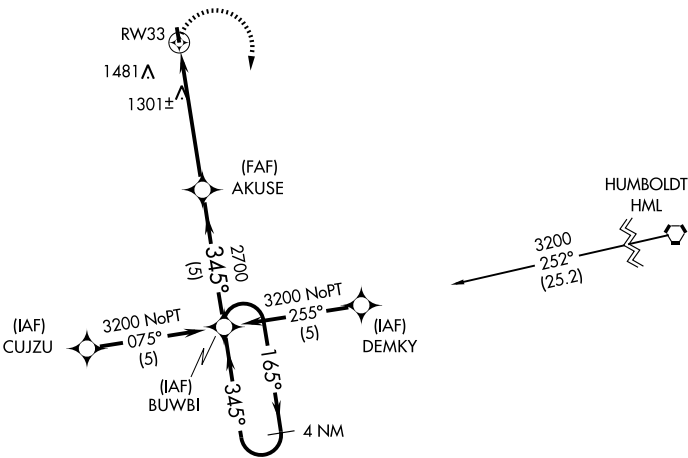
WALHALLA MUNI (96D)

NA Use Hallock Muni altimeter setting.
GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climbing right turn to 3200 direct BUWBI WP and hold.

MINNEAPOLIS CENTER
132.15 269.6

CTAF
122.9



CATEGORY	A	B	C	D
LNAV MDA	1680-1	727 (800-1)	NA	
CIRCLING	1680-1	727 (800-1)	NA	

APP CRS	Rwy Idg	4402
290°	TDZE	2108
	Apt Elev	2109

GPS RWY 30
WATFORD CITY MUNI (S25)

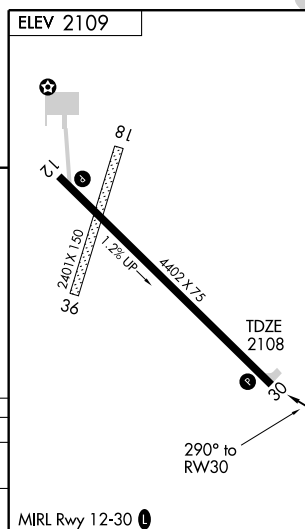
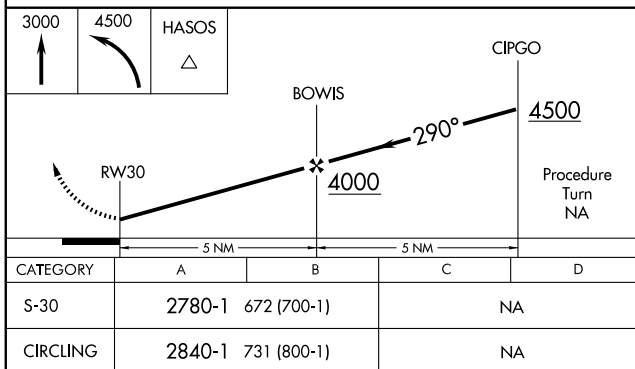
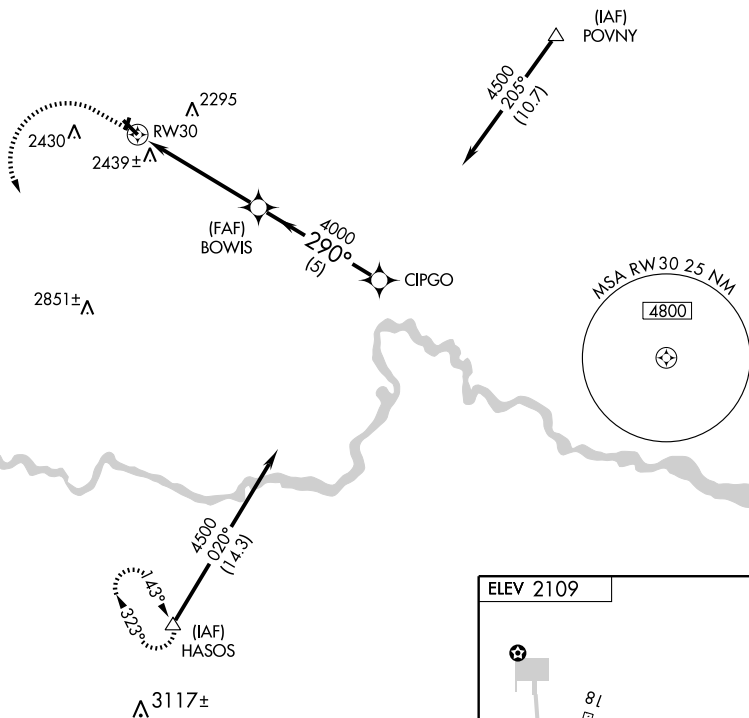
T
A_{NA} Use Williston altimeter setting.

MISSED APPROACH: Climb to 3000 then climbing left turn to 4500 direct HASOS WP and hold.

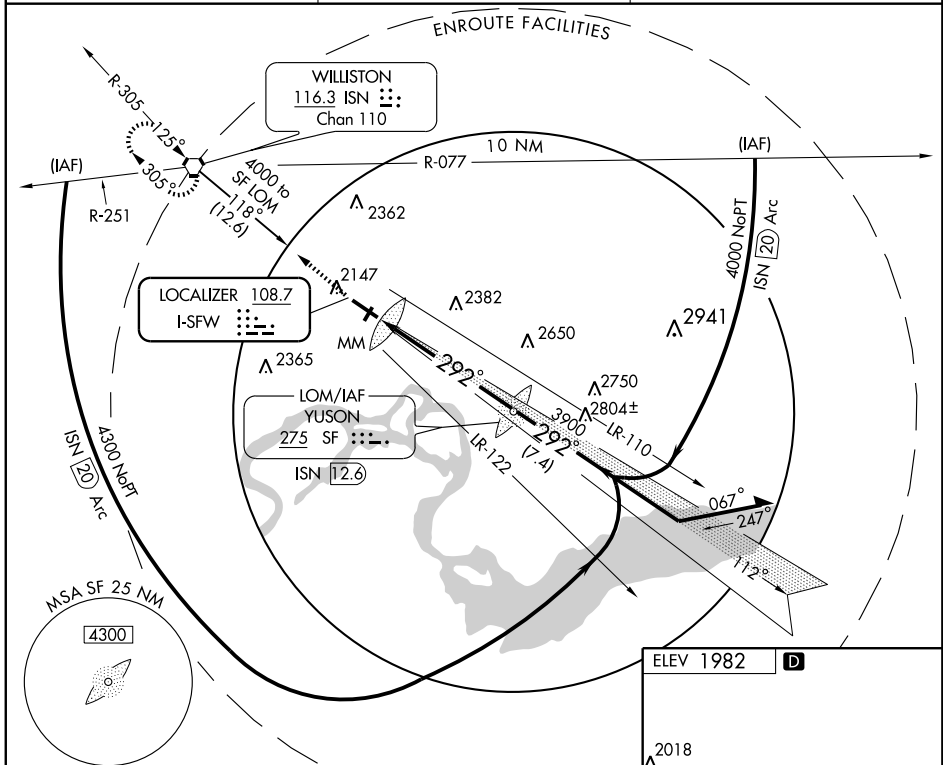
AWOS-3
118.125

SALT LAKE CENTER
126.85 305.2

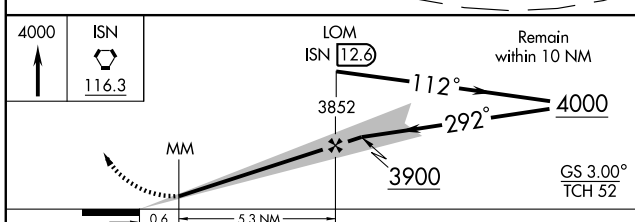
UNICOM
122.8 (CTAF) **L**



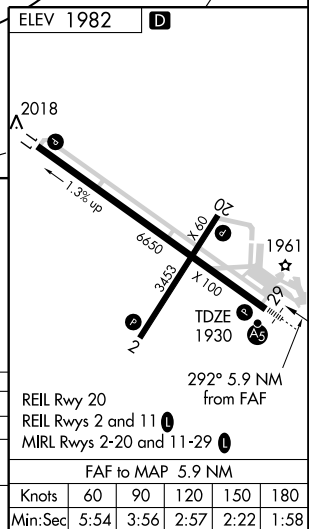
ASOS 125.92	SALT LAKE CITY CENTER 126.85 305.2	UNICOM 122.8 (CTAF) 0
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DME or ADF REQUIRED



CATEGORY	A	B	C	D
S-ILS 29	2130-½ 200 (200-½)			
S-LOC 29	2420-½ 490 (500-½)	2420-¾ 490 (500-¾)	2420-1 490 (500-1)	
CIRCLING	2500-1 518 (600-1)	2500-1½ 518 (600-½)	2560-2 578 (600-2)	



LOM SF <u>275</u>	APP CRS 292°	Rwy Idg TDZE Apt Elev	6650 1930 1982
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NDB RWY 29

WILLISTON/ SLOULIN FIELD INTL (ISN)



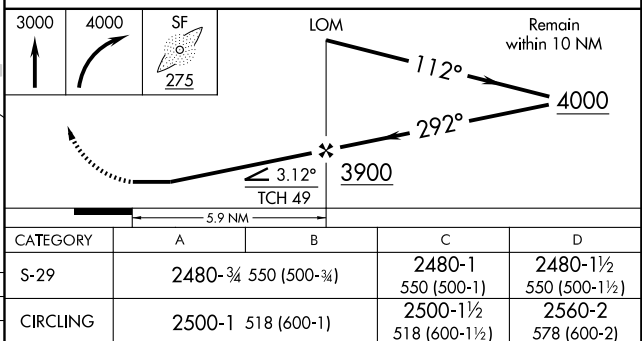
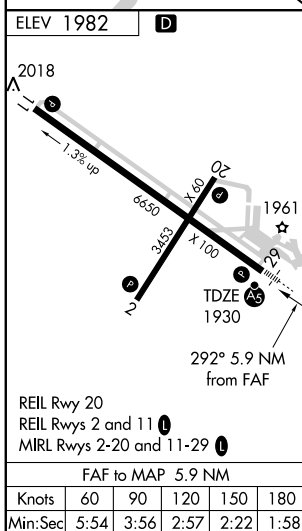
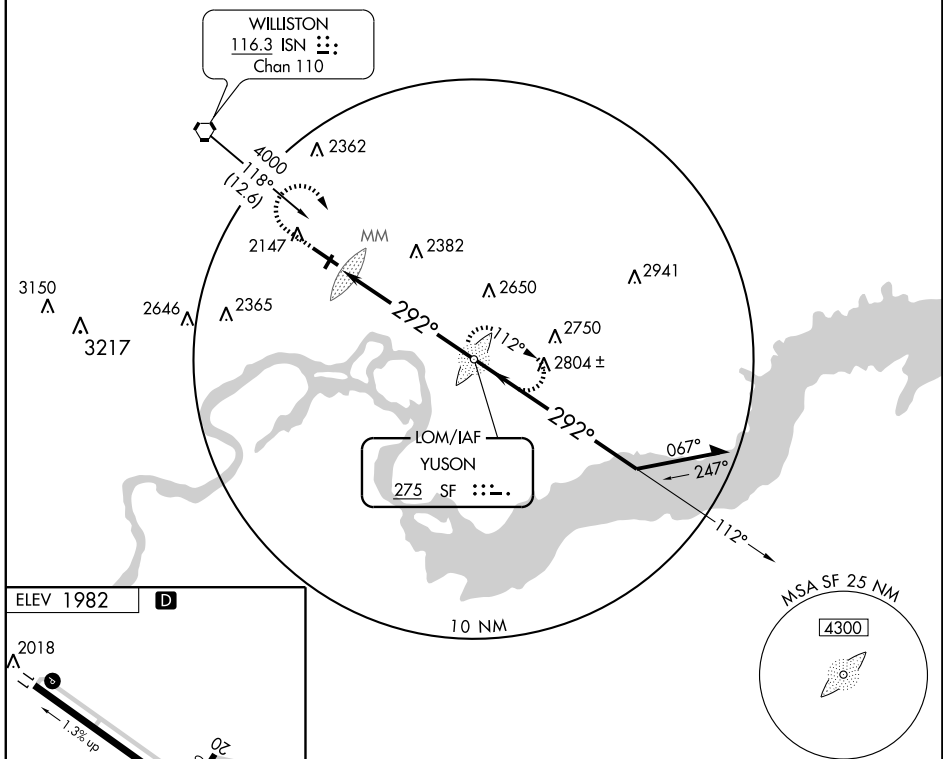
A NA

MALS



MISSED APPROACH: Climb to 3000 then climbing right turn to 4000 direct SF LOM and hold.

ASOS 125.92	SALT LAKE CITY CENTER 126.85 305.2	UNICOM 122.8 (CTAF) 0
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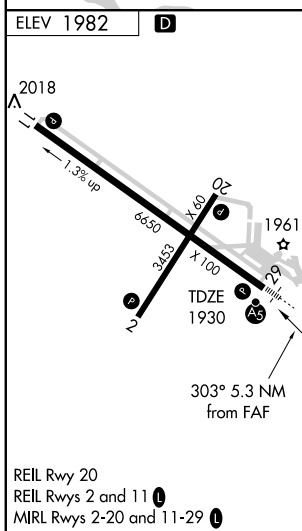
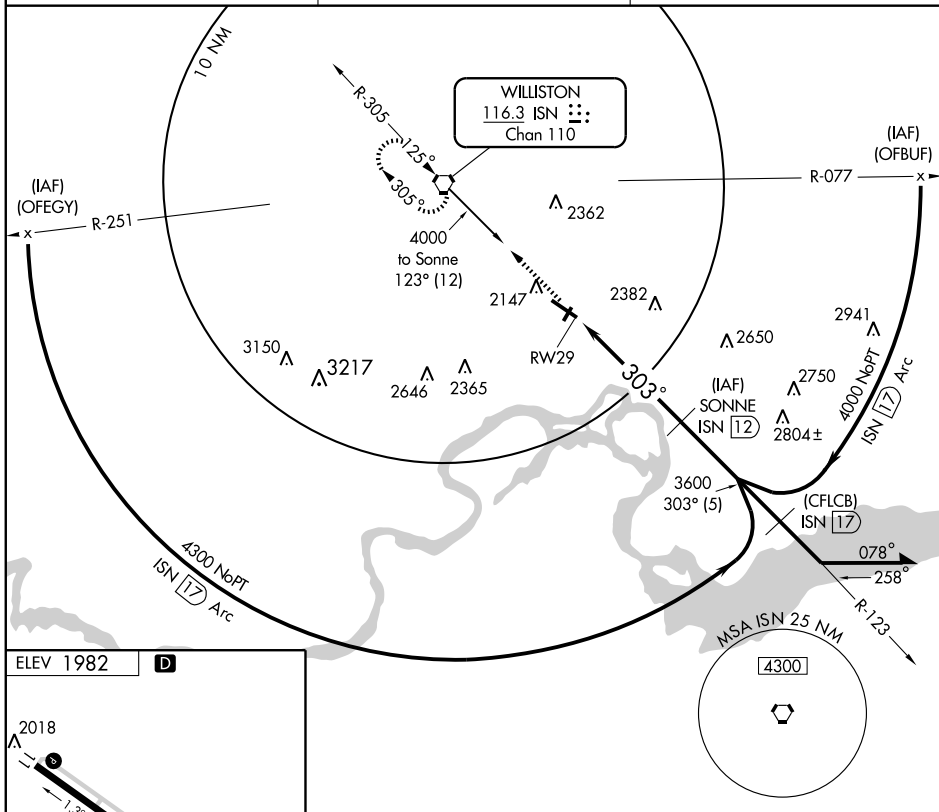
VORTAC ISN 116.3 Chan 110	APP CRS 303°	Rwy Idg TDZE Apt Elev	6650 1930 1982
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VOR/DME or GPS RWY 29

WILLISTON/ SLOULIN FIELD INTL (ISN)

 Inoperative components table does not apply.	 MALSR	MISSED APPROACH: Climb to 4000 direct ISN VORTAC and hold.
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ASOS 125.92	SALT LAKE CITY CENTER 126.85 305.2	UNICOM 122.8 (CTAF) 0
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4000 ↑	ISN 116.3 	SONNE ISN 12			Remain within 10 NM
RW29 ISN 6.7 		≤ 2.97° TCH 49	123°	303°	4000
		5.3 NM	3600		
CATEGORY	A	B	C	D	
S-29	2420-1	490 (500-1)	2420-1¼ 490 (500-1¼)	2420-1½ 490 (500-1½)	
CIRCLING	2500-1	518 (600-1)	2500-1½ 518 (600-1½)	2560-2 578 (600-2)	

